











NEW WOMEN'S DORMITORY



# State College at Fitchburg

Commonwealth  
of Massachusetts

Established 1894

ACCREDITED BY

New England Association of Colleges and Secondary Schools  
National Council for Accreditation of Teacher Education

MEMBER OF

The Eastern States Association of Professional Schools for Teachers  
The American Association of Colleges for Teacher Education  
Massachusetts Council on Teacher Education  
Association of Teacher Education Institutions  
The New England Teacher Preparation Association  
National Commission on Accrediting



## TABLE OF CONTENTS

### GENERAL INFORMATION

Administration	1
Faculty	2
College Description	10
Admissions Procedure	11
Costs	12
Parking	12
Student Assistance	12
Requirements for Graduation	13
Requirements for Student Teaching	13
Other Requirements and Regulations	14

### DEGREE PROGRAMS

Explanation of Course Numbers	15
Teacher Training Curricula	16
Elementary Education	16
Special Education	17
Secondary Education	18
Biology	19
Chemistry	20
English	21
Geography	22
History	23
Industrial Arts	24
Mathematics	25
Physics	26
Nursing Curriculum	27
Medical Technology Curriculum	28
Liberal Arts Curricula	29
Biology	30
English	31
History	32
Physics	33

### DESCRIPTION OF COURSE AND REQUIREMENTS

*Explanation of Course Description Numbers	34
Art	34
Biology	36
Chemistry	38
Education	39
English	41
Foreign Languages	44
French	44
Latin	45
Spanish	46
Geography	46
History	48
Industrial Arts	52

## TABLE OF CONTENTS CONT.

Library Science	56
Mathematics	56
Medical Technology	59
Music	59
Nursing	61
Philosophy	62
Physical Education	64
Physics	65
Psychology	67
Science	68
Social Sciences	69
Special Education	70
Speech	71
*Explanation of Course Description Numbers	74

INDEX

Back Page

# The Commonwealth of Massachusetts

*The Board of Trustees of State Colleges*

*50 Franklin Street*

*Boston, Massachusetts*



## BOARD OF TRUSTEES

DR. KENNETH R. FOX, CHAIRMAN

MR. JOSEPH F. ALIBRANDI

CAPT. JOHN S. KEATING

MR. WILLIAM E. AUBUCHON, JR.

MR. THOMAS D. O'CONNOR II

DR. WILBUR J. BENDER

MR. HOWARD C. SMITH

MRS. MARION N. CHANDLER

MRS. MARGARET SPENGLER

MR. HASKELL FREEDMAN

MRS. SOL W. WELTMAN

DR. FRANCIS X. GUINDON

ACTING DIRECTOR

DIVISION OF STATE COLLEGES



## ADMINISTRATION

JAMES J. HAMMOND, ED.M.	President
GEORGE H. MERRIAM, PH.D.	Academic Dean
JOHN J. BOURSRY, B.S.	Assistant to the President
MARY L. ROACHE, ED.M.	Dean of Women
HARRY CROWLEY, ED.D.	Chairman, Behavioral Science Department
DAYTON N. DENNETT, PH.D.	Chairman, English Department
EDWARD T. DONNELLY, ED.D.	Chairman, Industrial Arts Department
ADELE M. DRISCOLL, ED.D.	Coordinator of Student Teaching; Chairman, Education Department
EDWARD F. DRISCOLL, PH.D.	Coordinator of Instructional Media, Industrial Arts
JOSEPH F. DURANT, ED.D.	Dean of Students
THOMAS BATTINELLI, C.A.G.S.	Chairman, Physical Education Department
WILLIAM H. FITZGIBBON, M.S.	Dean of Men, Science
WILLIAM J. GOLDMAN, ED.D.	Chairman, Special Education Department
ROGER F. HOLMES, ED.D.	Director of Graduate Study; Chairman, Social Studies Department
LAWRENCE W. JACKSON, A.B.	Director of Admissions
RICHARD L. KENT, MUS. A.D.	Chairman, Fine Arts Department, Music
JOHN J. MAZEIKA, M.ED.	Registrar
PHILIP A. McMURRAY, ED.M.	Director of Evening College and Summer School
ALICE T. O'MALLEY, PH.D.	Chairman, Biology Department
KATHERINE SEHL, ED.D.	Chairman, Nursing Department

## FACULTY -

- |                     |   |
|---------------------|---|
| DONALD M. ADAMS     | - M.B. Boston University; Ed.M. State College at Fitchburg. Assistant Professor - Music   |
| JOSEPH A. ANGELINI  | - A.B. Providence College; Ed.M. Boston College; C.A.G.S. Boston University. Assistant Professor - Mathematics  |
| EVELYN R. ANTIL     | - B.S.Ed. Fitchburg State Teachers College; M.S. Boston University. Instructor - Nursing  |
| ELMER J. ARSENAULT  | - B.E. Tufts University; M.F.A. Syracuse University. Instructor - Art   |
| LILLIAN BANNON      | - B.S. Nursing Ed. Boston College School of Nursing; M.Ed. Boston College. Assistant Professor - Nursing  |
| THOMAS BATTINELLI   | - A.A., B.S. Boston University; M.Ed. Boston College; C.A.G.S. Boston University. Assistant Professor - Physical Education  |
| ALBERT BERKOWITZ    | - B.J. Ed. Hebrew Teachers College; B.S. Ed. Boston University; M.Ed. State College at Boston. Instructor - Special Education   |
| HOWARD J. BESNIA    | - A.B. Clark University; B.F.A., M.F.A. Yale University. Assistant Professor - Industrial Arts  |
| HASAN BEY           | - Diploma. Teachers State College, Elbasan, Albania; Diploma. Scientific State College, Shkoder, Albania; Ph.D. State University of Parma, Italy. Associate Professor - Chemistry |
| COLIN A. BOURN      | - A.B. St. Michael's College; M.Ed. State College at Fitchburg; M.A. University of Massachusetts. Instructor - English  |
| WILLIAM A. BOWERS   | - B.S. Ed. Eastern Michigan University; M.S. Michigan State University. Associate Professor - Physics   |
| GRAINGER BROWNING   | - A.B. Shaw University; M.A., Ph.D. Boston University. Associate Professor - Sociology  |
| JOSEPH E. CARPENTER | - B.S.Ed. Fitchburg State Teachers College; Ed.M. Worcester State Teachers College; C.A.G.S. University of Connecticut. Assistant Professor - Industrial Arts                     |
| NORMAN CARSON       | - B.S., M.Ed. State University of New York at Brockport. Instructor - History   |
| EUGENE CASASSA      | - B.S.Ed. Fitchburg State Teachers College; M.A. Columbia University Teachers College. Instructor - Speech  |
| GEORGE M. CASE      | - B.S. College of Wooster; M.A. University of Massachusetts. Instructor - English   |
| WILLIAM CASEY       | - B.S., M.A. Boston College; M.S. Simmons College. Librarian  |
| ROBERT W. CLARK     | - A.B. Brown University; M.Ed. State College at Bridgewater; M.A. Rutgers University. Instructor - Mathematics  |

- MARION B. CLARK - A.B. Ohio Wesleyan; A.M. Western Reserve University; A.M. Boston University. Assistant Professor - Physical Education
- GEORGE F. CONDIKE - A.B. Depauw University; Ph.D. Cornell University. Professor - Chemistry
- MICHAEL J. CONLON - A.B. Holy Cross College; A.M. Boston College. Professor - Philosophy
- NICHOLAS J. COPOULOS - B.S., M.Ed. Boston University. Assistant Professor - Mathematics
- CATHERINE COX - B.Ed. University of Minnesota; A.M. Clark University. Assistant Professor - Geography
- ANGELO COZZETTO - B.A. Brooklyn College; M.A. Middlebury College; Prof. Cert. Teachers College, Columbia University. Assistant Professor - Spanish
- HARRY L. CROWLEY - B.S. Bates College; Ed.M., Ed.D. Boston University. Professor and Chairman - Behavioral Science Department
- LEE N. CUNNINGHAM - B.S. Springfield College; M.Ed. University of Massachusetts. Instructor - Physical Education
- FREDERIC DAVIS - B.S.E.E. University of Connecticut; M.S. University of Massachusetts. Assistant Professor - Biology
- JEVA K. DEAN - B.A. North Dakota State Teachers College; M.A., Ph.D. Clark University. Professor - Geography
- RICHARD DECESARE - B.S. Holy Cross College; M.A. Boston College. Assistant Professor - Philosophy
- DAYTON N. DENNETT - B.A. City College of New York; M.A. Columbia University; Ph.D. Cornell University. Professor and Chairman - English Department
- VIRGINIA DOYLE - B.S.N. Boston College School of Nursing; M.S. Catholic University of America. Instructor - Nursing.
- EDWARD T. DONNELLY - B.S.Ed., Ed.M. Fitchburg State Teachers College; Ed.D. Boston University. Professor and Chairman - Industrial Arts Department
- THERESA A. DOWNEY - B.S., M.S. Boston University. Instructor - Nursing.
- ADELE M. DRISCOLL - B.S.Ed., Ed.M. Fitchburg State Teachers College; Ed.D. Boston University. Coordinator of Student Teaching. Professor and Chairman - Education Department
- EDWARD F. DRISCOLL - B.S.Ed., Ed.M. Fitchburg State Teachers College; Ph.D. University of Connecticut. Professor - Industrial Arts
- RITA DRISCOLL - B.S. Clark University; M.S. Boston University. Instructor - Nursing
- JOSEPH F. DURANT - A.B., M.A., Ed.D. Boston College. Dean of Students



- IRENE K. DWYER - A.B. Marietta College; M.A. University of Illinois. Instructor - Speech
- ROBERT EHRLICH - A.B., M.A. Boston University; M.A. Brandeis University. Associate Professor - History
- HAROLD J. ENZIAN - B.S. Oswego State College; M.A. Kent State University; Ph.D. Ohio State University. Associate Professor - Industrial Arts
- ROSE MARIE A. ESPOSITO - B.S. Beaver College; M.S. Southern Connecticut State College. Instructor - Biology, Medical Technology.
- JOSEPH FARIAS - B.S.Ed., Ed.M. Fitchburg State Teachers College. Instructor - Industrial Arts
- LOUIS B. FIKE - A.B. Franklin and Marshall College. Assistant Professor - Political Science.
- WILLIAM FITZGIBBON - B.S.Ed., Ed.M. Fitchburg State Teachers College; M.N.S. Worcester Polytechnic Institute. Dean of Men and Associate Professor - Science
- KATHERINE FLYNN - B.S.Ed., Ed.M. Fitchburg State Teachers College. Instructor - Special Education
- ALICE M. FOLEY - B.S. Boston College. Instructor - Nursing
- NORMAN H. FREDETTE - B.S. University of Massachusetts; M.Ed. Harvard University. Instructor - Science.
- DONALD FREEBURG - B.S. Pennsylvania State University; M.A. Bowdoin College. Instructor - Mathematics
- AVIVA FREEDMAN - B.A. McGill University; M.A. Columbia University. Instructor - English.
- ROBERT FRITZ - B.F.A. Syracuse University; M.A., Ed.D. Columbia University. Associate Professor - Art
- EVERETT A. GARVIN - A.B. Antioch College; M.S. Tulane University; Ph.D. Washington University. Professor - Psychology.
- JANE GILLIGAN - B.A. Emmanuel College; M.A. Boston College. Instructor - English.
- WILLIAM J. GOLDMAN - B.S.Ed. Salem State Teachers College; Ed.M., Ed.D. Boston University. Professor and Chairman, Special Education Department
- ROBERT W. GREENE - B.S.Ed. Worcester State Teachers College; M.Ed. Northeastern University; Ph.D. University of Connecticut. Assistant Professor - Director of Placement
- EVELYN HAYES - B.S., M.Ed. Boston College. Instructor - Nursing
- VINCENT L. HALEY - B.A. University of Dubuque; M.A. Teachers College of Columbia University. Instructor - Psychology
- MARY HALEY - B.S.N., M.S. Boston College. Instructor - Nursing
- JAMES J. HAMMOND - B.S. Fitchburg State Teachers College; M.S. Harvard University. President

- ERLING HANSON - B.S.Ed. Fitchburg State Teachers College; M.S. Worcester State Teachers College. Instructor - Industrial Arts Fitchburg State Teachers College. Assistant Professor,
- WALTER F. HARROD - B.S.Ed., Ed.M. Fitchburg State Teachers College; C.A.G.S. University of Connecticut. Associate Professor - Industrial Arts
- ELIZABETH M. HASKINS - B.S., M.S. Massachusetts Institute of Technology; M.A. Radcliffe College. Associate Professor - Mathematics
- DANIEL L. HEALY - A.B. Boston College; M.Mus. Curtis Institute of Music; M.Ed. Hyannis Teachers College. Associate Professor - English
- ALFRED P. HOBBS - Diploma, Fitchburg State Normal School; B.S. Bradley Polytechnic Institute; M.A. New York University. Instructor - Industrial Arts
- ROGER F. HOLMES - B.S. Wesleyan University; Ed.M. Boston University; Ed.D. Teachers College Columbia University. Professor and Chairman - Social Studies Department
- RAYMOND G. HOOPS - B.S. Bowling Green State University; M.A. Ohio State University; Sixth Year Certificate, New York University. Assistant Professor - Industrial Arts
- EVERETT ISRAEL - B.S. New York State University at Oswego; M.A. University of Maryland. Instructor - Industrial Arts
- LAWRENCE W. JACKSON - A.B. Wittenburg University. Director of Admissions
- RICHARD L. KENT - B.M.E. Drake University; M.M., New England Conservatory of Music; Mus.A.D. Boston University. Professor of Music and Chairman - Fine Arts Department
- BERNICE M. KRAWIEC - B.S., M.S. Boston University. Instructor - Nursing
- RICHARD KRUSE - B.A., M.Ed. Boston University. Instructor - Speech
- THEODORE L. LAPIERRE - B.S.Ed. Plymouth Teachers College; M.Ed. University of New Hampshire. Assistant Professor - Physics
- A. ORIN LEONARD - B.A. Wesleyan University; B.S. School of Library Science Columbia University; M.A., Ed.D. Teachers College Columbia University. Associate Professor - Psychology
- LEON L'HEUREUX, JR. - A.B. St. Mary's University; M.S. University of Rhode Island. Assistant Professor - Education
- KARL R. LINDQUIST - B.A., M.Ed. University of Maine; M.S. Worcester Polytechnic Institute. Assistant Professor - Physical Science
- BERNICE C. LOTHROP - B.S. Simmons College; A.M. Columbia University Teachers College. Instructor - Home Economics
- DAVID R. MATTESON - B.A. Alfred University; B.D. Colgate Rochester Divinity School. Instructor - Psychology
- JOHN J. MAZEIKA - B.S. Holy Cross College; M.Ed. Boston College. Registrar



- MURIEL G. McAVOY** - B.A. Radcliffe College; A.M., Ph.D., Boston University. Assistant Professor - History
- JOANNE McCARTHY** - B.A. Regis College; M.Ed. Boston College. Instructor - Psychology
- JOHN McGRAIL, JR.** - B.S. Holy Cross College; M.Ed. Boston College. Instructor - English
- PHILIP A. McMURRAY** - A.B. Manhattan College; Ed.M. Fitchburg State Teachers College. Director - Evening College and Summer School
- GEORGE H. MERRIAM** - A.B. Clark University; A.M. Brown University; Ph.D. Clark University. Dean
- FREDERICK R. MILLER** - B.S.Ed., Ed.M. Fitchburg State Teachers College; C.A.E.S. University of Connecticut. Assistant Professor - Industrial Arts
- M. IRENE MIRANDA** - B.S.Ed. Bridgewater State College; M.A. University of Massachusetts. Instructor - English
- L. DORIS MOQUIN** - B.S.Ed. Salem State Teachers College; M.Ed., Ed.D. Boston University. Associate Professor - Elementary Education
- JOHN F. NASH** - A.B., M.S. Boston College; Ed.M. Boston University; Ed.D. Syracuse University. Professor - History
- KATHERINE O'CONNOR** - B.S.Ed. Fitchburg State Teachers College; M.S. Boston College. Assistant Professor - Nursing
- ALICE T. O'MALLEY** - B.A. Anna Maria College; M.A., Ph.D. Clark University. Associate Professor and Chairman - Biology Department
- ERWIN PALLY** - B.A., A.M. University of Massachusetts; A.M. Harvard University. Instructor - English
- HOPE PARKER** - B.S.N.E., M.S.N.E. Boston University. Instructor - Nursing
- PIERRE L. PINET** - B.A. University of New Hampshire; M.A. University of Pennsylvania. Assistant Professor - French
- FRANCIS P. POWERS** - A.B. Maryknoll Seminary; M.Ed., Ed.D. Boston College. Associate Professor - Secondary Education
- WILLIAM D. PURCELL** - B.S.Ed. Fitchburg State Teachers College; M.C.S. Boston University; D.Ed. Harvard University. Professor - English
- CATHERINE QUINT** - B.S. Worcester State College; M.Ed. Boston University. Instructor - Elementary Education
- J. WALTER RICHARD** - B.S.Ed. Fitchburg State Teachers College; M.S. University of Massachusetts. Associate Professor - Secondary Education
- MARY L. ROACHE** - B.S.Ed., Ed.M. Fitchburg State Teachers College. Assistant Professor - Dean of Women

- |                    |   |
|--------------------|---|
| DAVID F. RYDER     | - B.S.Ed. Fitchburg State Teachers College; M.A. University of Maryland. Instructor - Industrial Arts   |
| DONALD J. SCHMIDT  | - B.A., M.A. State College of Iowa; Ph.D. University of Iowa. Assistant Professor - Biology   |
| KATHERINE SEHL     | - B.S. DePaul University; M.S. University of Chicago; Ed.D. Teachers College Columbia University. Professor and Chairman - Nursing Department |
| HARRY SEMERJIAN    | - B.M. Boston University College of Music; M.A. Boston University. Instructor - Music   |
| DAVID SETTELE      | - B.S., M.Ed. Boston University. Instructor - Physical Education  |
| ROBERT SHAUGHNESSY | - B.S.Ed., Ed.M. Fitchburg State Teachers College; M.N.S. Worcester Polytechnic Institute. Assistant Professor - Physics                      |
| LOUIS P. SHEPHERD  | - B.S.Ed. Kansas State Teachers College of Emporia; A.M. Columbia University. Associate Professor - English                                   |
| GEORGE STEFFANIDES | - B.S. University of Massachusetts; A.M., Ed.M. Harvard University. Assistant Professor - Biology   |
| JOANNE SWANSON     | - B.S.N.E. University of Pittsburgh; M.S. Boston University. Assistant Professor - Nursing  |
| LILLIAN TATER      | - B.S.Ed. Fitchburg State Teachers College; Ed.M. Harvard University. Assistant Professor - English   |
| MARGARET TAYLOR    | - B.S.N. New York University; M.S.N. Boston University. Instructor - Nursing  |
| EDMUND B. THOMAS   | - B.S. John Carroll University; M.A. Kent State University. Assistant Professor - History   |
| RENE J. THOMAS     | - B.S.Ed., Ed.M. Fitchburg State Teachers College. Assistant Professor - Industrial Arts  |
| MICHAEL VIGNALE    | - A.B., Ph.D. Boston University. Associate Professor - Chemistry  |
| FRANK WOLF         | - B.S. Kansas State College; M.A., Ed.D. New York University. Professor - Biology.  |
| DANIEL YENKEVICH   | - B.A. University of Scranton; M.A. Niagara University. Instructor - History  |
| ROBERT ZOTTOLI     | - B.A. Bowdoin College; M.S., Ph.D. University of New Hampshire. Assistant Professor - Biology  |

#### TRAINING SCHOOL — JUNIOR HIGH

- |                  |   |
|------------------|---|
| ANNA PHILBIN     | - B.S.Ed. Worcester State Teachers College; Ed.M. Fitchburg State Teachers College. Assistant Professor, Acting Principal - English |
| SIGNE ANTILA     | - B.S.Ed., Ed.M. Fitchburg State Teachers College. Assistant Professor - Geography  |
| KATHRYN A. BAKER | - B.S.Ed. Worcester State Teachers College; M.S. Fitchburg State Teachers College. Instructor - English, Latin                      |

- JAMES W. BALENTINE - A.B. Bates College; M.Ed. Boston State College. Instructor - Mathematics
- RICHARD F. CONDON - B.S.Ed., Ed.M. Fitchburg State Teachers College. Instructor - Mathematics
- HAROLD DESMOND - B.S., M.Ed. State College at Fitchburg; C.P.G.S.P. Boston College. Assistant Professor - Science.
- LOUIS LORENZEN - B.S. Bowling Green State University; M.Ed. Bridgewater State College. Instructor - Art
- FRANCES MARSHALL - B.S. Simmons College. Instructor - Home Economics
- MARGARET S. McLEAN - A.B. Clark University; L.L.B. Boston University. Instructor - History
- ROBERT S. TAPPLY - B.S.Ed., Ed.M. Fitchburg State Teachers College. Assistant Professor - English

#### SPECIAL SUPERVISORS

- ELIZABETH A. KRUCZEK - B.S. Boston University Sargent College; Certificate. Nature Education Natural History Museum. Instructor - Physical Education
- REGINA LOPES - B.M. Boston University; M.M. Eastman School of Music. Instructor - Music
- FLORENCE SCARPACI - B.S., M.Ed. Worcester State Teachers College. Instructor - Art

#### TRAINING SCHOOL — EDGERLY

- MARION CUSHMAN - B.S.Ed. Boston University; M.Ed. Harvard University; C.G.S. Columbia Teachers College. Assistant Professor, Acting Principal - Grade 6
- HELEN CARNEY - B.S.Ed., M.Ed. Fitchburg State Teachers College. Instructor - Grade 2
- HELEN FOOT - A.B. Simmons College. Instructor - Grade 5
- ANN GREEN - A.B. Emmanuel College; M.Ed. Fitchburg State College. Instructor - Grade 4
- ESSIE MAE JACKSON - B.S. Ed. Alcorn A. and M. College; M.Ed. Fitchburg State College. Instructor - Grade 5
- FLORENCE K. KALLAN - B.S. New York University School of Education; M.S. Columbia University School of Social Work. Instructor - GRADE 3
- ELIZABETH MANEY - B.S.Ed. Boston University; M.Ed. Fitchburg State College. Instructor - Grade 1
- ROBERT McDERMOTT - B.S.Ed., M.Ed. Fitchburg State Teachers College. Instructor - Grade 4
- IRENE PASSIOS - B.S.Ed., M.Ed. Fitchburg State Teachers College. Instructor - Grade 3
- HELENE RILEY - B.S.P.A. Boston University; M.Ed. Fitchburg State College. Instructor - Grade 1
- MILDRED L. VINSKEY - B.S. Worcester State Teachers College; M.Ed. University of Massachusetts. Instructor - Grade 5



## TRAINING SCHOOL — DILLON

M. ELIZABETH O'CONNER	- B.S.Ed., M.Ed. Fitchburg State Teachers College. Assistant Professor, Principal - Grade 1
BETTINA ASSELTA	- B.S.Ed., M.Ed. Fitchburg State Teachers College. Instructor - Grade 2
PATRICIA BARBARESI	- B.S.Ed. Fitchburg State Teachers College; M.A. University of Connecticut. Instructor - Grade 3
DONALD FRANCIOSI	- B.S.Ed., M.Ed. Fitchburg State Teachers College. Instructor - Grade 6
DORIS LYSTILA	- B.S.Ed., M.Ed. Fitchburg State Teachers College. Instructor - Grade 4
MARGARET McDOWELL	- B.S.Ed., M.Ed. Fitchburg State Teachers College. Instructor - Grade 5

## MEDICAL OFFICERS

DONALD PALIWONSKY, M.D., Medical	College Physician
QUINTINO ROLLO, M.D., Surgical	College Physician
MORIS M. KEEFE, R.N.	Nurse
MARGARET M. PETERSON, R.N.	Nurse

## GENERAL PERSONNEL SUPERVISORS

LEBINA DAVIS	Supervising Housekeeper
PAUL DUPONT	Chief Engineer
ARTHUR GAGNON	Head Janitor
WILLIAM KILMARTIN	Head Groundsman
CLAIRE G. LAVOIE	Head Clerk
ELLEN MATSON, B.S., M. Ed.	Dietitian

## THE STATE COLLEGE AT FITCHBURG

The State College at Fitchburg was established as a normal school under Chapter 457, Acts of 1894 of the General Laws of the Commonwealth of Massachusetts. It became a State Teachers College in 1933 and a State College in 1962. The college now offers the degrees of Bachelor of Arts, Bachelor of Science in Education, Nursing, and Medical Technology and the degree of Master of Education.

Located on the northern side of the city, the College has an attractive campus to which several additional buildings were added in the last half dozen years. The newest building is an eleven-story dormitory for women.

In October, 1963 the Library moved into its quarters on the two floors of the Administration Building. It contains about 50,000 volumes, subscribes to nearly 500 periodicals, and has a record collection of over 1,000 musical and non-musical records. The Library also includes a basic reference collection of the best children's books of all times, and special emphasis is placed on books for students in the fields of nursing, guidance, and retarded children. An effort is made to supply needed materials in every area by weekly additions to the Library.

One of the unique features of the campus is the laboratory school system for children, grades one through nine. The Fitchburg State College junior high school is the only training school of its type in Massachusetts.

The current enrollment of the college is more than 1,800 students. The curricula available to students include work in Elementary, Junior High and Secondary Education, Industrial Arts, Special Education for Teachers of the Mentally Retarded, Nursing and Medical Technology; and Bachelor of Arts programs in Biology, English, History and Physics. The college expects to offer a Bachelor of Arts program in Chemistry in the near future. The Industrial Arts program is one of the oldest in the nation and the leader in New England. While an increased percentage of students intend to take their degree in Arts and Science, at present about 80% of the graduates of Fitchburg State College enter teaching.

## STUDENT ORGANIZATIONS AND ACTIVITIES

Students at Fitchburg are fortunate to be in a progressive community and area rich in cultural, social, and religious activities; within easy travel of such important cities as Worcester, Boston, and New York; and in a vacation land famed for its year-round beauty and sports.

All students belong to the Student Government Association, which coordinates all student activities. The next largest campus units are the four undergraduate class organizations (Freshman, Sophomore, Junior, Senior) which are responsible for a variety of activities.



including dances, picnics, shows, and the like. Other campus groups, varying in size and function, aid in enriching student life at the college.

These include:

ALPHA PHI OMEGA	MEN'S DORMITORY BOARD
BIOLOGY CLUB	MEN'S INTRAMURAL BOARD
CHEERLEADERS	MUSIC IN THE AIR DISC CLUB
COMMUTING BOARD	NEWMAN CLUB
DRAMATICS CLUB	RIFLE CLUB
EPSILON PI TAU (Industrial	SAXIFRAGE
Arts honor society)	SCRABBLE CLUB
FORUM CLUB	SKI CLUB
GLEE CLUB	SPECIAL EDUCATION CLUB
HOST and HOSTESS CLUB	S.T.E.A.M. (Student Teachers Edu-
INDUSTRIAL ARTS CLUB	cation Association of Mass.)
JUDAIC CLUB	STUDENT CHRISTIAN
KAMPUS VUE	ASSOCIATION
LOGOS HONOR SOCIETY	WOMEN'S ATHLETIC
(male)	ASSOCIATION
MEN'S ATHLETIC	WOMEN'S DORMITORY BOARD
ASSOCIATION	

Local cultural activities also include the Fitchburg Regional Community Concert Association, offering special student memberships, while the Student Government Association, through its Cultural Events Committee, provides outstanding figures in the arts and sciences. Moreover, there is The Ship's Mast, a private coffee house for students and faculty which offers whist, bridge, and chess; and on weekends folk singers, lectures, and poetry readings. Although nonsectarian and lay, it is sponsored and partially financed by the Montachusett Council of Churches.

Athletically, for male students there is interscholastic competition in soccer, basketball, track, and tennis with fellow members of the New England Teachers College Athletic Conference and other colleges, as well as in golf, while the men's intramural athletic program includes competition in soccer, touch-football, basketball, and softball. The Women's Athletic Association provides major interscholastic and intramural sports in field hockey, volleyball, basketball, and softball; other sports offered are archery, tennis, badminton, and bowling.

#### ADMISSIONS PROCEDURE

A. Application for admission should be obtained from either the Admissions Office, Fitchburg State College, or the local Guidance Office.

B. Application should be submitted as early as possible during

the applicant's senior year of high school. It is desirable to have it accompanied by transcript and school recommendation based upon school grades through the first marking period of the senior year.

C. College Board Scores (The SAT and three achievements) must be forwarded to Fitchburg (Code 3518). The Scholastic Aptitude Test should be taken as a junior when possible. All scores should be sent to Fitchburg State College at the earliest possible date.

D. When the transcript, recommendation, and College Board Scores have been reviewed, the applicant will be notified of any further requirements.

Registration Fee—\$20.00 payable within two weeks of notification of acceptance. This fee will be deducted from tuition of students who attend Fitchburg State College. It is not refundable.

Tuition—Residents of Massachusetts—\$200 annually, payable \$100 at the beginning of each semester. Non-residents—\$600 annually, payable \$300 at the beginning of each semester.

Room is \$180 - \$300 and board \$360, in college dormitories, annually; \$25 (not refundable) to be paid upon notification of acceptance.

All fees are payable when due without presentation of bills. Checks for tuition and dormitory fees should be made out to "State College at Fitchburg." Check for Student Government Fee should be made out to "Student Government Association (or S.G.A.) of State College of Fitchburg."

Other Expenses—Textbooks and Supplies—approximately \$100 a year.

Personal and social expenses cannot be estimated, as they will vary with the individual.

(NOTE CONCERNING STUDENT PARKING: When conditions warrant, parking space for student-owned cars may be available on campus, but it is not the obligation of the school to furnish such. The College administration disapproves of cars on campus which are not needed for work or for teacher-training travel.)

#### STUDENT ASSISTANCE

A limited number of scholarships are available to students in certain curricula after they have successfully completed one or more semesters of college. National Defense Loans are also available. Student employment offers another means of financial assistance.

All applications for financial assistance must be made to the Dean of Men or the Dean of Women after the student is enrolled in college.

---

### REQUIREMENTS FOR GRADUATION

1. Successful completion of all required courses and of the total semester hour requirements of the program.
2. A 2 or better cumulative average for the total program.
3. A 2 or better average in the major field.
4. A satisfactory record of attendance at required class activities.
5. The successful completion of a standard first aid course (except for nursing).
6. The completion of a minimum of 30 semester hours at the college.
7. All Teacher Education majors must take the National Teachers Examination before graduation.
8. Students graduating in June must file an application for graduation with the Registrar not later than February first of the year of graduation. Students graduating in August must file their application by June first.

### REQUIREMENTS FOR STUDENT TEACHING

1. Satisfactory completion of the psychology sequence required in the specific curriculum.
2. Satisfactory completion of the required professional sequence of courses of the specific curriculum.
3. Achievement of a satisfactory level of speech in terms of pronunciation and grammar.
4. Indication of the necessary level of readiness and maturity for teaching as adjudged by faculty of the department.
5. Adequate preparation in terms of content:
  - A. Completion of a minimum of 30 S.H. with a 2 or better average in the major field; or 30 S.H. in the subject matter field and related fields for secondary majors.
  - B. No failures in the major subject area. (Failures should be removed by retaking the given course or a recognized substitute.) Evidence through personal interview by an Education Department staff member that the student has a sense of vocation in entering student teaching. (This might be supplemented by extra summer or vacation work in appropriate settings to further indicate interest in working with children.) Evidence of adequate health, both physically and mentally, to enter the teaching training period. (Here formal recommendations from the counseling staff and physical education staff might supplement any health records.)



- C. Completion of at least 15 S.H. with a 2 or better average in the area of specialization for Elementary majors.
- D. Completion of 46 S.H. of shop work with an average of 2 or better in the Industrial Arts curriculum.

### WITHDRAWAL FROM CLASS

A student who wishes to drop a course must obtain the permission of the Registrar. Any student who fails to do this will automatically receive a WF for the course. However, a student who is in good standing in a course who finds it necessary to discontinue the course before midsemester warnings have been issued will receive a W for the course if he makes the proper arrangements. A student who is failing a course will receive a WF.

Normally a student who drops a course after midsemester warnings will receive a WF. However, a student with a 2 or better average who must lighten his load or drop out of college due to extensive illness or serious accident will receive a W regardless of time of withdrawal.

### OTHER REQUIREMENTS AND REGULATIONS

Other requirements and regulations of this college will be found in the student handbooks.

### DEGREE PROGRAMS

The State College at Fitchburg is empowered to grant four degrees: Bachelor of Science in Education, Bachelor of Science in Nursing, Bachelor of Arts, and Bachelor of Science in Medical Technology. Available through the Evening College is the degree of Bachelor of Science in Industrial Science.

Students preparing to be teachers are candidates for the Bachelor of Science in Education. They may major in elementary education, industrial arts, special education, or secondary education. Secondary education students also have a subject matter major selected from one of the following fields: Biology, Chemistry, English, Geography, History, Mathematics, or Physics.

Candidates for the Bachelor of Arts degree may major in Biology, English, History, or Physics.

Students in all curricula complete a common core of credits in general education distributed as follows: English, Speech, Science and Mathematics, Social Science, Fine Arts, Introduction to Knowledge, Behavioral Science, Philosophy.

The balance of credits is distributed among major, elective, and professional courses.

## EXPLANATION OF COURSE NUMBERS

- 01-09 Non-credit courses.
- 10-19 First courses in given area of general education series.
- 20-29 Second courses in given area of general education series.
- 30-69 Elective courses.
- 70-89 Professional courses.
- 90-99 Independent Study and Honor courses.



## TEACHER TRAINING CURRICULA

Students preparing to teach follow a curriculum which leads to a B.S. in Ed. degree. Four basic areas of concentration are offered: Elementary Education, Special Education (mentally retarded), Industrial Arts and Secondary Education. Students specializing in secondary education may select one of the following majors: Biology, Chemistry, English, Geography, History, Mathematics, Physics.\*

Students in all these curricula have a semester of student teaching. This occurs in the last semester of the junior year or first semester of the senior year in the Industrial Arts curriculum. In all other curricula it occurs in the first or second semester of the senior year. Because classes are divided in half for this activity the sequence of semesters of the junior and senior year varies to provide optimum pre-training preparation.

### BACHELOR OF SCIENCE IN EDUCATION

#### ELEMENTARY CURRICULUM

##### Freshman Year

First Semester	S.H.	Second Semester	S.H.
English Composition I	3	English Composition II	3
**History of Civilization I	3	History of Civilization II	3
Biology I	3	Biology II	3
Mathematics I	3	Mathematics II	3
Art of Music I	3	Survey of Art Forms I	3
Speech	2	Introduction to Man and His Knowledge II	1
Introduction to Man and His Knowledge I	1	Physical Education II	0
Physical Education I	0		16
	<hr/> 18		

##### Sophomore Year

First Semester	S.H.	Second Semester	S.H.
Literature I	3	Literature II	3
U.S. History I	3	U.S. History II	3
Physical Science I	3	***Introduction to Geography	3
General Psychology	3	Art in Elementary Education	2
Applied Music	1	Elective	3
Elective	3	Elective	3
Physical Education III	0	Physical Education IV	0
	<hr/> 16		17

Junior Year			
First Semester	S.H.	Second Semester	S.H.
Child Growth and Development	3	Introduction to Philosophy	3
General Methods	3	Science in Elementary Education	2
Reading in Elementary Education	3	Mathematics in Elementary Education	3
Educational Measurements	3	Music in Elementary Education	2
Elective	3	Instructional Material in Elementary Education	2
Elective	3	Physical Education in Elementary Education	1
	18	Elective	3
			16

Senior Year			
First Semester	S.H.	Second Semester	S.H.
Student Teaching in Elementary Education	12	Regional Geography	3
		Social Institutions	3
		Elective	3
		Elective	3
	12	Elective	3
			15

\* All elementary majors must complete 15 semester hours beyond the required courses to fulfill specialization. The following areas are available: Art, Foreign Language, Geography, History, Language Arts, Mathematics, Music, Science.

\*\* Students taking a foreign language specialization should begin this in their freshman year.

\*\*\* Students taking a geography specialization must take geography in the first semester.

### BACHELOR OF SCIENCE IN EDUCATION MAJOR IN TEACHING SPECIAL EDUCATION

Freshman Year			
First Semester	S.H.	Second Semester	S.H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
Biology I	3	Biology II	3
Mathematics I	3	Art of Music I	3
General Psychology	3	Human Growth and Development	3
Introduction to Man and His Knowledge I	1	Speech	2
Physical Education I	0	Introduction to Man and His Knowledge II	1
	16	Physical Education II	0
			18

## Sophomore Year

First Semester	S.H.	Second Semester	S.H.
Literature I	3	Literature II	3
Physical Science I	3	Physical Science II	3
Mathematical Concepts	3	Nature and Needs of Mentally Retarded	3
Introduction to Geography	3	Exceptional Children	4
Applied Music	1	Home Arts	3
Industrial Arts for Special Education	3	Physical Education IV	0
Physical Education III	0		16
	16		

## Junior Year

First Semester	S.H.	Second Semester	S.H.
Children's Literature	3	Art in Elementary Education	2
U.S. History and Constitution	3	Methods of Teaching Mentally Retarded	3
Survey of Art Forms I	3	Curriculum for Mentally Retarded	3
Introduction to Speech Disorders	3	Reading Methods in Special Education	3
Music in Special Education	2	Educational Measurements	3
Elective	3	Elective	3
	17	Handwriting	0
			17

## Senior Year

First Semester	S.H.	Second Semester	S.H.
Student Teaching	12	Social Institutions	3
	12	Introduction to Philosophy	3
		Principles of Guidance	3
		Elective	3
		Elective	3
			15

## SECONDARY EDUCATION

All students preparing to teach secondary school follow the same basic curriculum in terms of general education and professional courses. The sequence of these courses varies with the major in order that ample opportunity to build a strong subject matter field can be provided. Details of requirements in terms of specific electives, prerequisites, and number of electives will be found under the appropriate subject matter headings.

# BACHELOR OF SCIENCE IN EDUCATION

## BIOLOGY MAJOR

### Freshman Year

First Semester	S. H.	Second Semester	S. H.
English Composition I	3	English Composition II	3
History of Civilization	3	History of Civilization II	3
Botany I	3	Botany II	3
Chemistry I	3	Chemistry II	3
Algebra and Trigonometry	3	Analytic Geometry	3
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<u>16</u>		<u>16</u>

### Sophomore Year

First Semester	S. H.	Second Semester	S. H.
Literature I	3	Literature II	3
Invertebrate Zoology	4	Vertebrate Zoology	3
Organic Chemistry I	3	Biological Lab. Techniques	3
Trends in American Education	3	Biochemistry	3
Elective in Biology	3	General Psychology	3
Physical Education III	0	Speech	2
	<u>16</u>	Physical Education IV	0
			<u>17</u>

### Junior Year

First Semester	S. H.	Second Semester	S. H.
Genetics	3	Physics II	3
Physics I	3	Social Institutions	3
Adolescent Psychology	3	Educational Measurements	3
Art of Music I	3	General Methods	3
Biology Elective	3	Conservation or Biology Elective	3
	<u>15</u>	Biology Elective	3
			<u>18</u>

### Senior Year

First Semester	S. H.	Second Semester	S. H.
Student Teaching	9	U.S. History and Constitution	3
Special Methods	3	Introduction to Geography	3
	<u>12</u>	Introduction to Philosophy	3
		Survey of Art Forms I	3
		Biology Elective	2 or 3
		Elective	3
			<u>17 or 18</u>



## BACHELOR OF SCIENCE IN EDUCATION CHEMISTRY MAJOR

### Freshman Year

First Semester	S. H.	Second Semester	S. H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
Biology I	3	Biology II	3
General Chemistry I	3	General Chemistry II	3
Algebra and Trigonometry	3	Analytic Geometry	3
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Speech	2
	<hr/> 16	Physical Education II	0
			<hr/> 18

### Sophomore Year

First Semester	S. H.	Second Semester	S. H.
Literature I	3	Literature II	3
Organic Chemistry I	5	Analytical Chemistry I	4
General Physics I	4	General Physics II	4
Calculus I	3	Calculus II	3
Trends in American Education	3	General Psychology	3
Physical Education III	0	Physical Education IV	0
	<hr/> 18		<hr/> 17

### Junior Year

First Semester	S. H.	Second Semester	S. H.
U.S. History & Constitution	3	Organic Chemistry II	5
Analytical Chemistry II	3	Survey of Art Forms I	3
Modern Physics	3	General Methods	3
Social Studies Elective	3	Introduction to Philosophy	3
Adolescent Psychology	3	Educational Measurements	3
	<hr/> 15		<hr/> 17

### Senior Year

First Semester	S. H.	Second Semester	S. H.
Student Teaching in Secondary Education	9	Physical Chemistry	3
Science Methods	3	Art of Music I	3
	<hr/> 12	Social Institutions	3
		Chemistry Elective	3
		Elective	3
			<hr/> 15



## BACHELOR OF SCIENCE IN EDUCATION ENGLISH MAJOR

### Freshman Year

First Semester	S. H.	Second Semester	S. H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
Biology I	3	Biology II	3
Mathematics I or Chemistry I or Physics I	3	Mathematics II or Chemistry II or Physics II	3
Introduction to Geography	3	General Psychology	3
Introduction to Man and His Knowledge	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<hr/> 16		<hr/> 16

### Sophomore Year

First Semester	S. H.	Second Semester	S. H.
English Literature I	3	English Literature II	3
World Literature I	3	World Literature II	3
Physical Science I	3	Physical Science II	3
Trends in American Education	3	Introduction to Philosophy	3
Speech	2	Elective	3
Elective	3	Physical Education IV	0
Physical Education III	0		<hr/> 15
	<hr/> 17		

### Junior Year

First Semester	S. H.	Second Semester	S. H.
U.S. History & Constitution	3	Survey of Art Forms I	3
Adolescent Psychology	3	General Methods	3
Elective	3	Educational Measurements	3
Elective	3	Elective	3
Elective	3	Elective	3
	<hr/> 15		<hr/> 15

### Senior Year

First Semester	S. H.	Second Semester	S. H.
Student Teaching in Secondary Education	9	Social Institutions	3
English Methods	3	Art of Music I	3
	<hr/> 12	Elective	3
		Elective	3
		Elective	3
			<hr/> 15

# BACHELOR OF SCIENCE IN EDUCATION GEOGRAPHY MAJOR

## Freshman Year

First Semester	S. H.	Second Semester	S. H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
Biology I	3	Biology II	3
Mathematics I or Chemistry I or Physics I	3	Mathematics II or Chemistry II or Physics II	3
Introduction to Geography	3	General Psychology	3
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<u>16</u>		<u>16</u>

## Sophomore Year

First Semester	S. H.	Second Semester	S. H.
Literature I	3	Literature II	3
Physical Science I	3	Physical Science II	3
Economics	3	Earth Science or Geomorphology	3
Trends in American Education	3	Introduction to Philosophy	3
Speech	2	Elective	3
Elective	3	Physical Education IV	0
Physical Education III	0		<u>15</u>
	<u>17</u>		

## Junior Year

First Semester	S. H.	Second Semester	S. H.
Literature Elective	3	U.S. History II	3
U.S. History I	3	Survey of Art Forms I	3
Adolescent Psychology	3	General Methods	3
Elective	3	Educational Measurements	3
Elective	3	Elective	3
	<u>15</u>		<u>15</u>

## Senior Year

First Semester	S. H.	Second Semester	S. H.
Student Teaching in Secondary Education	9	Social Institutions	3
Geography Methods	3	Art of Music I	3
	<u>12</u>	Elective	3
		Elective	3
		Elective	3
			<u>15</u>

## BACHELOR OF SCIENCE IN EDUCATION HISTORY MAJOR

### Freshman Year

First Semester	S. H.	Second Semester	S. H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
Biology I	3	Biology II	3
Mathematics I or Chemistry I or Physics I	3	Mathematics II or Chemistry II or Physics II	3
Introduction to Geography	3	General Psychology	3
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<u>16</u>		<u>16</u>

### Sophomore Year

First Semester	S. H.	Second Semester	S. H.
Literature I	3	Literature II	3
U.S. History I	3	U.S. History II	3
Physical Science I	3	Physical Science II	3
Trends in American Education	3	Political Science	3
Speech	2	Introduction to Philosophy	3
Physical Education III	0	Physical Education IV	0
	<u>17</u>		<u>15</u>

### Junior Year

First Semester	S. H.	Second Semester	S. H.
Literature Elective	3	Survey of Art Forms I	3
Adolescent Psychology	3	General Methods	3
Elective	3	Educational Measurements	3
Elective	3	Elective	3
Elective	3	Elective	3
	<u>15</u>		<u>15</u>

### Senior Year

First Semester	S. H.	Second Semester	S. H.
Student Teaching in Secondary Education	9	Social Institutions	3
Special Methods	3	Art of Music I	3
	<u>12</u>	Elective	3
		Elective	3
		Elective	3
			<u>15</u>

## BACHELOR OF SCIENCE IN EDUCATION INDUSTRIAL ARTS MAJOR

### Freshman Year

First Semester	S.H.	Second Semester	S.H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
*Mathematics I	3	*Mathematics II	3
Introduction to Woodworking	2	D.C. Circuit Fundamentals	2
Introduction to Technical Drawing	2	History of Mechanics	2
Introduction to Metals	2	Introduction to Design	2
Introduction to Typography	2	General Shop I	2
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<u>18</u>		<u>18</u>

### Sophomore Year

First Semester	S.H.	Second Semester	S.H.
Literature I	3	Literature II	3
General Chemistry I	3	General Chemistry II	3
General Psychology	3	Foundations of Industrial Arts I	2
Furniture Making	3	Graphic Arts	3
Engineering Drawing	3	A.C. Circuit Fundamentals	3
Machine Shop Processes	3	Internal Combustion Engines	3
Physical Education III	0	Physical Education IV	0
	<u>18</u>		<u>17</u>

### Junior Year

First Semester	S.H.	Second Semester	S.H.
General Physics	3	Student Teaching	9
Speech	2	Foundations of Industrial Arts II	3
Adolescent Psychology	3		
Principles and Practices in Industrial Arts	3		
Structures	3		
Elective Shop	3		
	<u>17</u>		<u>12</u>

\*Algebra and Trigonometry and Analytical Geometry may be substituted.



## Senior Year

First Semester	S.H.	Second Semester	S.H.
Art of Music I	3	Survey of Arts Forms I	3
U.S. History and Constitution	3	Philosophy of Education	3
Social Institutions	3	Economics	3
Introduction to Philosophy	3	Elective Shop (Wood- , Drawing- , Graphic Power- , Electricity- , Graphic Arts- , Crafts-)	3
Elective Shop (Metal- , Power- , Electricity- , Graphic Arts- , Crafts-)	3	Crafts- Metal-Power)	3
Elective	3	Elective	3
	<u>18</u>		<u>15</u>

BACHELOR OF SCIENCE IN EDUCATION  
MATHEMATICS MAJOR

## Freshman Year

First Semester	S. H	Second Semester	S. H
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
Biology I	3	Biology II	3
General Chemistry I	3	General Chemistry II	3
Algebra and Trigonometry	3	Analytic Geometry	3
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<u>16</u>		<u>16</u>

## Sophomore Year

First Semester	S. H	Second Semester	S. H
Literature I	3	Literature II	3
General Physics I	4	General Physics II	4
Linear Algebra	3	Calculus II	3
Calculus I	3	General Psychology	3
Trends in American Education	3	Introduction to Philosophy	3
Speech	2	Physical Education IV	0
Physical Education III	0		<u>16</u>
	<u>18</u>		

## Junior Year

First Semester	S. H	Second Semester	S. H
U.S. History and Constitution	3	Introduction to Abstract Algebra	3
Modern Physics	3		

Calculus III	3	Geometry II	3
Geometry I	3	Principles of Geography	3
Educational Measurements	3	General Methods	3
Adolescent Psychology	3	Survey of Art Forms I	3
	<hr/> 18		<hr/> 15

## Senior Year

First Semester	S. H.	Second Semester	S. H.
Student Teaching in		Probability & Statistics I	3
Secondary Education	9	Social Institutions	3
Mathematics Methods	3	Art of Music I	3
	<hr/> 12	*Elective	3
		**Elective	3
			<hr/> 15

\* Free Elective.

\*\* Mathematics Elective.

## BACHELOR OF SCIENCE IN EDUCATION

## PHYSICS MAJOR

## Freshman Year

First Semester	S. H.	Second Semester	S. H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
Biology I	3	Biology II	3
General Physics I	4	General Physics II	4
Algebra & Trigonometry	3	Analytic Geometry	3
Introduction to Man and		Introduction to Man and	
His Knowledge I	1	His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<hr/> 17		<hr/> 17

## Sophomore Year

First Semester	S. H.	Second Semester	S. H.
Literature I	3	Literature II	3
Modern Physics	3	PSSC Physics	3
General Chemistry I	3	General Chemistry II	3
Calculus I	3	Calculus II	3
Trends in American		General Psychology	3
Education	3	Physical Education IV	0
Speech	2		<hr/> 15
Physical Education III	0		
	<hr/> 17		

## Junior Year

First Semester	S. H.	Second Semester	S. H.
U.S. History & Constitution	3	Survey of Art Forms I	3
Electronic Physics I	4	Electronic Physics II	4
Calculus III	3	General Methods	3
Introduction to Geography	3	Education Measurements	3
Adolescent Psychology	3	Introduction to Philosophy	3
	<u>16</u>		<u>16</u>

## Senior Year

First Semester	S. H.	Second Semester	S. H.
Student Teaching in		Art of Music I	3
Secondary Education	9	Social Institutions	3
Physics Methods	3	Physics Elective	3 or 4
	<u>12</u>	Physics Elective	3 or 4
		Elective	3
			<u>15 or 17</u>

## NURSING CURRICULUM

Students enrolled in this program earn a B.S. in Nursing degree and are prepared to take the licensing examination of the Board of Registration in Nursing. Upon completion of the examination they have the title of Registered Nurse.

In addition to the classes held on the college campus clinical laboratory experiences and observations are carried on in selected agencies such as hospitals and public health organizations.

## BACHELOR OF SCIENCE IN NURSING

## Freshman Year

First Semester	S.H.	Second Semester	S.H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
Chemistry I	3	Chemistry II	3
Anatomy and Physiology I	3	Anatomy and Physiology II	3
General Psychology	3	Social Institutions	3
Introduction to Nursing I	1	Introduction to Nursing II	1
Introduction to Man and		Introduction to Man and	
His Knowledge I	1	His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<u>17</u>		<u>17</u>

## Sophomore Year

First Semester		Second Semester	
	S.H.		S.H.
Literature I	3	Literature II	3
Foundations of Nursing I	4	Foundations of Nursing II	4
Foundations of Professional Relationships I	1	Foundations of Professional Relationships II	1
Algebra and Trigonometry	3	Human Growth and Development	3
Microbiology	3	Nutrition	3
Speech	2	Elective (Social Studies)	3
Physical Education III	0	Physical Education IV	0
	<u>16</u>		<u>17</u>

## Junior Year

First Semester		Second Semester	
	S.H.		S.H.
*Medical-Surgical Nursing	12	*Maternal and Child Health Nursing	12
Introduction to Pharmacology	2	Principles of Management	2
U.S. History and Constitution	3	Introduction to Philosophy	3
	<u>17</u>		<u>17</u>

## Senior Year

First Semester		Second Semester	
	S.H.		S.H.
*Community and Mental Health Nursing	12	*Advanced Medical Surgical Nursing	9
Survey of Art Forms I	3	*Nursing Seminar	2
Elective	3	Art of Music I	3
	<u>18</u>	Elective	3
			<u>17</u>

\*May be taken in either semester.

## MEDICAL TECHNOLOGY CURRICULUM

Candidates for this program earn a B.S. degree in Medical Technology.

The senior year will be spent at Burbank Hospital, or another accredited School for Medical Technologists, where additional work in biology and chemistry will be given. Upon completion of this specialized training, the candidate will be qualified to take examinations leading to M. T. certification by the Board of Registry of the American Society of Clinical Pathologists.



## BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY

## Freshman Year

First Semester	S.H.	Second Semester	S.H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
Biology I	3	Biology II	3
General Chemistry I	3	General Chemistry II	3
Alegbra and Trigonometry	3	Analytic Geometry	3
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	16		16

## Sophomore Year

First Semester	S.H.	Second Semester	S.H.
Literature I	3	Literature II	3
Anatomy and Physiology I	3	Anatomy and Physiology II	3
Organic Chemistry I	3	Analytic Chemistry	4
General Psychology	3	Introduction to Geography	3
Speech	2	Elective	3
Elective	3	Physical Education IV	0
Physical Education III	0		16
	17		

## Junior Year

First Semester	S.H.	Second Semester	S.H.
U.S. History and Constitution	3	Biochemistry	3
Microbiology	3	Physics II	3
Physics I	3	Social Institutions	3
Art of Music I	3	Introduction to Philosophy	3
Biology Elective I	3	Survey of Art Forms I	3
	15		15

## Senior Year

32 credits given for 12 months in an approved hospital school of Medical Technology.

## LIBERAL ARTS CURRICULUM

The Liberal Arts Curriculum is designed for the student whose primary interest is in the Liberal Arts and Sciences. Beginning with the core of general education courses required of all students in the college, the candidate for the B.A. specializes in either English, History, Biology, or Physics and meets a required level of proficiency in a Foreign Language.

English and History majors in this curriculum may take a minor in another subject such as art or music. Or they may freely choose from offerings of other departments without selecting any second area of concentration. Biology and Physics majors will need to use their electives for enrichment in related fields.

## BACHELOR OF ARTS IN BIOLOGY

### Freshman Year

First Semester		Second Semester	
	S. H.		S. H.
English Composition I	3	English Composition II	3
Botany I	3	Botany II	3
Chemistry I	3	Chemistry II	3
Algebra and Trigonometry	3	Analytic Geometry	3
Modern Foreign Language	3	Modern Foreign Language	3
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<u>16</u>		<u>16</u>

### Sophomore Year

First Semester		Second Semester	
	S. H.		S. H.
Literature I	3	Literature II	3
Invertebrate Zoology	4	Vertebrate Zoology	3
Organic Chemistry I	3	Biochemistry	3
Modern Foreign Language	3	Modern Foreign Language	3
Biology Elective	3	Biology Elective	3
Physical Education III	0	Speech	2
	<u>16</u>	Physical Education IV	0
			<u>17</u>

### Junior Year

First Semester		Second Semester	
	S. H.		S. H.
History of Civilization I	3	History of Civilization II	3
Physics I	3	Physics II	3
Art of Music I	3	Biology Elective	3
Biology Elective	3	Biology Elective	3
Elective	3	Elective	3
	<u>15</u>		<u>15</u>

### Senior Year

First Semester		Second Semester	
	S. H.		S. H.
Social Institutions	3	U.S. History and Constitution	3
General Psychology	3	Introduction to Geography	3
Introduction to Philosophy	3	Survey of Art Forms I	3
Biology Elective	3	Biology Elective	2 or 3
Elective	3	Biology Elective	3
	<u>15</u>	Elective	3
			<u>17 or 18</u>

## BACHELOR OF ARTS IN ENGLISH

## Freshman Year

First Semester	S. H.	Second Semester	S. H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
*Mathematics I or Chem. I or Physics I	3	*Mathematics II or Chem. II or Physics II	3
Art of Music I	3	Survey of Art Forms I	3
Foreign Language	3	Foreign Language	3
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<u>16</u>		<u>16</u>

## Sophomore Year

First Semester	S. H.	Second Semester	S. H.
English Literature I	3	English Literature II	3
World Literature I	3	World Literature II	3
U.S. History I	3	U.S. History II	3
*Biology I or Physical Science I or Chem. I	3	*Biology II or Physical Science II or Chem. II	3
Foreign Language or Elective	3	Foreign Language	3
Physical Education III	0	Speech	2
	<u>15</u>	Physical Education IV	0
			<u>17</u>

## Junior Year

First Semester	S. H.	Second Semester	S. H.
Fine Arts or Music	3	Social Institutions	3
General Psychology	3	Fine Arts or Music	3
English Elective	3	English Elective	3
English Elective	3	English Elective	3
Elective	3	Elective	3
	<u>15</u>		<u>15</u>

## Senior Year

First Semester	S. H.	Second Semester	S. H.
Introduction to Philosophy	3	English Elective	3
English Elective	3	English Elective	3
English Elective	3	English Elective	3
English Elective	3	English Elective	3
Elective	3	Elective	3
	<u>15</u>		<u>15</u>

\*A student must complete 12 semester hours of two science sequences or 6 semester hours of mathematics and 6 semester hours of a science.

## BACHELOR OF ARTS IN HISTORY

## Freshman Year

First Semester	S.H.	Second Semester	S.H.
English Composition I	3	English Composition II	3
History of Civilization I	3	History of Civilization II	3
*Mathematics I	3	*Mathematics II	3
Principles of Geography	3	General Psychology	3
Foreign Language	3	Foreign Language	3
Introduction to Man and His Knowledge I	1	Introduction to Man and His Knowledge II	1
Physical Education I	0	Physical Education II	0
	<u>16</u>		<u>16</u>

## Sophomore Year

First Semester	S.H.	Second Semester	S.H.
Literature I	3	Literature II	3
U.S. History I	3	U.S. History II	3
Biology I or Physical Science I or Chemistry I	3	Biology II or Physical Science II or Chemistry II	3
Economics	3	Political Science	3
Speech	2	Foreign Language or Elective	3
Foreign Language or Elective	3	Physical Education IV	0
Physical Education III	0		<u>15</u>
	<u>17</u>		

## Junior Year

First Semester	S.H.	Second Semester	S.H.
Literature I	3	Literature II	3
Introduction to Philosophy	3	Survey of Art Forms I	3
Foreign Language or Elective	3	Foreign Language or Elective	3
Elective	3	Elective	3
Elective	3	Elective	3
	<u>15</u>		<u>15</u>

## Senior Year

First Semester	S.H.	Second Semester	S.H.
Social Institutions	3	Art of Music I	3
**Elective	3	Elective	3
Elective	3	Elective	3
Elective	3	Elective	3
Elective	3	Elective	3
	<u>15</u>		<u>15</u>

\* A student must complete 12 semester hours of two science sequences or 6 semester hours of mathematics and 6 semester hours of science.



## BACHELOR OF ARTS IN PHYSICS

## Freshman Year

First Semester		Second Semester	
	S. H.		S. H.
English Composition I	3	English Composition II	3
General Physics I	4	General Physics II	4
Algebra and Trigonometry	3	Analytical Geometry	3
Modern Foreign Language	3	Modern Foreign Language	3
Introduction to Man and His Knowledge I	1	Gen. Psychology	3
Physical Education I	0	Introduction to Man and His Knowledge II	1
Speech	2	Physical Education II	0
	<u>16</u>		<u>17</u>

## Sophomore Year

First Semester		Second Semester	
	S. H.		S. H.
Literature I	3	Literature II	3
Chemistry I	3	Chemistry II	3
Modern Physics	3	Calculus II	3
Calculus I	3	Modern Foreign Language	3
Modern Foreign Language	3	Optics	4
Physical Education III	0	Physical Education IV	0
	<u>15</u>		<u>16</u>

## Junior Year

First Semester		Second Semester	
	S. H.		S. H.
History of Civilization I	3	History of Civilization II	3
Electronic Physics I	4	Electronic Physics II	4
Calculus III	3	Differential Equations	3
Survey of Art Forms I	3	Art of Music I	3
Physics Elective	3	Physics Elective	3
	<u>16</u>		<u>16</u>

## Senior Year

First Semester		Second Semester	
	S. H.		S. H.
Social Institutions	3	United States History and Constitution	3
Elective	3	Geography	3
Introduction to Philosophy	3	Math. Physics II	3
Math. Physics I	3	Physics Elective	3
Elective	3	Elective	3
	<u>15</u>		<u>15</u>

## COURSE DESCRIPTIONS AND DEPARTMENTAL REQUIREMENTS

**Note:** Arabic numbers at end of course descriptions represent semester hours and clock hours in that order.

**Example**

**Art 10      Survey of Art Forms I      3-3**  
The 3-3 represents 3 semester hours, 3 clock hours.

**ART**

Art 10      Survey of Art Forms I      3-3  
Significant art forms in Western Civilization from 1800 to the present.

Art 30      Survey of Art Forms II      3-3  
Significant art forms in Western civilization from the earliest times to 1800.

Art 31      Basic Design      3-3  
The pictorial elements: line, color, shape and texture. The integration and usage of these basic elements as a preparation for the areas of drawing, painting and sculpture. Prerequisite: Art 10.

Art 32      Basic Drawing      3-3  
A studio course to acquaint the student with various modes of drawing, emphasis being primarily upon the exploration of line and mass. Prerequisite: Art 31 or permission of the instructor.

Art 33      Studio Problems in Painting and Drawing      3-6  
An introduction to the fundamental techniques in pictorial composition with emphasis upon the handling of painting media. Prerequisite: Art 32.

Art 34      Art of Asia      3-3  
A survey of the major art forms of Asian cultures. Emphasis on Chinese art, especially its calligraphy and painting.

Art 35      American Art      3-3  
Understanding of the growth and character of architecture, sculpture, painting and the minor arts from Colonial days to the present, with special emphasis upon contemporary art forms.

Art 36      Renaissance Painting      3-3  
Painting in Europe from 1250 to 1600. Emphasis on development of pictorial structure and technical innovations which set the standard of easel painting up to the first half of the 20th century.

**Art 40     Advanced Studio Problems in Painting and Drawing     3-6**

A continuation of Art 33 with a deepening emphasis upon individual problems. (Students in the Art Teaching Specialty Program are advised to take this course after the training period.)  
Prerequisite: Art 30.

**Art 80     Art in Elementary Education     2-4**

Observation and discussion of the philosophy and practice of art education, and a wide variety of creative experiences, for the elementary grades.

**Art 81     Seminar in Art Education     2-2**

Limited to students in the Art Teaching Specialty Program. Designed to acquaint the student with professional practices in art education. Laboratory experiences, observations in the classroom, and discussions concerning professional literature. Prerequisite: Art 30.

**Art 90     Independent Study in Art     3 hours credit**

For selected students, upon approval of both department head and advising instructor.

### ELECTIVES

The elective courses, beginning with Art 34, are open to all students. Those specializing in art are expected to select at least one to complete their Art specialty.

### ART MINOR PROGRAM

Students in the B.A. program will be admitted into this program at the discretion of the art faculty and with the approval of their major professor.

#### Required Courses in Art Minor Program for Elementary Education Majors

Art 30     Survey of Art Forms II

Art 31     Basic Design  
Prerequisite: Art 10

Art 32     Basic Drawing  
Prerequisite: Art 10, Art 31

Art 33     Studio Problems in Painting and Drawing  
Prerequisite: Art 10, Art 31, Art 32

Art 40     Advanced Problems in Painting and Drawing  
Prerequisite: Art 10, Art 31, Art 32, Art 33

Art 81     Seminar in Art Education  
Prerequisite: Art 10, Art 31, Art 32, Art 33.

---

ELECTIVES

Students will select one. Prerequisite: Art 10, Art 30.

Art 34 Art of Asia

Art 35 American Art

Art 36 Renaissance Painting

## BIOLOGY

Bio. 10A and B Biology I and II 3-4

A general education course designed to provide an understanding of living things. Laboratory investigations supplement lectures.

Bio. 11A and B Anatomy and Physiology 3-4

A study of the structure and physiological mechanisms of the human organism at the cellular, tissue, and organ level. Laboratory investigations supplement lectures.

Bio. 12 Invertebrate Zoology 4-6

Deals with the major phyla of invertebrates. Lectures are coordinated with laboratory studies, with emphasis on zoological principles and relationships. Prerequisite: Bio. 10A and B.

Bio. 13 Vertebrate Zoology 3-4

The study of representative vertebrates. Emphasis is placed on ecological and economic factors, as well as life-histories. Laboratory investigations supplement lectures. Prerequisite: Bio. 10A and B.

Bio. 30A Botany of Non-Flowering Plants 3-4

The emphasis in this course is on representative Thallophytes, their biology and their importance to man. Local Bryophytes and Pteridophytes are also briefly studied. Laboratory work supplements lectures.

Bio. 30B Botany of Flowering Plants 3-4

Lectures and laboratories include ecology, economic importance, morphology, and classification of representative species of flowering plants. Local forms are studied.

Bio. 32 Biological Laboratory Techniques 3-4

A study of microtechniques, including wholemounts, using both water soluble and hydrocarbon soluble media; smear, sectioning, stain-counterstain, squash, embryological, microprojecting, physiological chemistry, and other molecular biological techniques. Prerequisite: Bio. 10A and B.



- Bio. 33. Conservation of Natural Resources 3-4  
The use and misuse of renewable resources and the maintenance of environmental quality and productivity will be considered in terms of past and present environmental influences. Prerequisite: Bio. 42.
- Bio. 34. Field Natural History 3-4  
Primarily a field course concerned with the native flora and fauna. Interpretive lectures supplement the field work.
- Bio. 35. Genetics 3-4  
A study of the history of evolutionary thought, the mechanics of heredity, the action of environment and heredity on the organism, and the application of knowledge in the field to new and anticipated problems. Laboratory work supplements formal study. Prerequisite: Bio. 10B, Chem. 10B.
- Bio. 36. Plant Physiology 3-4  
A study of the function of plant cells, tissues, and other structures. Prerequisite: Chem. 30A.
- Bio. 37. Anatomy and Physiology 4-6  
A one-semester course that deals with the structure and function of the human organism.
- Bio. 38 Microbiology 3-4  
Study of the structure and function of microorganisms with special emphasis on their relationships to man.
- Bio. 39 Comparative Chordate Anatomy. 3-4  
A comparative study of the structure and body systems of chordate. Laboratory work supplements lecture. Prerequisite: Bio 10 A and B.
- Bio. 40 Marine Biology 3-3  
A course designed to acquaint the student with the ecological aspects of the marine environment. A survey of the major animal and plant groups along with field trips to marine and estuarine areas  
Prerequisite: Bio. 12.
- Bio. 42 Ecology 3-4  
A study of phenomena such as population relationships, productivity, energetics, and community structure. Field trips accompany lectures. Prerequisite: Bio. 12, 13, 30 A and B.
- Bio. 43 Parasitology 3-  
The morphology of representative groups of parasitic protozoa, helminths, and arthropods, and their functional relationships to the animal and human hosts. Lecture supplemented by laboratory. Prerequisite: Bio. 12; upper-class status.

Bio. 80      B.S.C.S. Biology      3-4

The B.S.C.S. (Biological Sciences Curriculum Study) approach to the teaching of biology. B.S.C.S. materials are used and evaluated. Seminars supplement supervised preparation of a laboratory and supervised contact with students in beginning laboratory. Prerequisite: Upper-class status.

Bio. 90      Independent Research      2-3

## CHEMISTRY

Chem. 10A Chemistry I      3-4

Fundamentals of chemistry with special attention to products in physiological chemistry. Required in the Nursing curriculum.

Chem. 10B Chemistry II      3-4

The chemistry of carbon compounds at the pre-professional level with special attention to problems in physiological chemistry. Required in the Nursing curriculum. Prerequisite: Chem. 10 A.

Chem. 11A and B      General Chemistry I and II      3-4

The fundamental laws and theories of chemistry such as atomic structure, the periodic table, electrochemistry, descriptive inorganic chemistry, the gas laws, solutions, descriptive organic chemistry and chemical binding. Chemical calculations are emphasized.

Chem. 12A and B      General Chemistry I and II      3-4

Fundamentals of organic and inorganic chemistry. Emphasis on modern chemical processes and products. Required of Industrial Arts students.

## ELECTIVES AND SPECIAL FIELD REQUIREMENTS

Candidates for Secondary teaching certificates in Chemistry must select courses from those listed below to complete 24 semester hours of credit in Chemistry. The Chemistry faculty in charge of counseling students may prescribe additional courses in the field.

Students of other curricula also may elect, under guidance, the following courses:

Chem. 30A and B      Organic Chemistry I and II      3-4

The chemistry of carbon compounds from the functional group approach. Aliphatic and aromatic families. Prerequisite: Chem. 11A and B or the equivalent.

Chem. 32      Biochemistry      3-4

Introduction to the chemistry of carbohydrates, fats and proteins. Special topics on the metabolic processes of living things. Required of Biology majors in sophomore year. Prerequisite: Chem. 11A and B or the equivalent.

## Chem. 33 A Analytical Chemistry I 4-6

Emphasis on theory and application of Qualitative and Quantitative Analysis. The lectures stress chemical equilibrium, solubility product, complexometric formation, oxidation-reduction, and stoichiometric calculations. Laboratory experiments include qualitative separation and identification of metal ions; quantitative acid-base, redox, complexometric titration and selected gravimetric experiments. Prerequisite: Chem. 11A and B or the equivalent.

## Chem. 33 B Analytical Chemistry II 3-5

Essentially a laboratory course in Instrumental Analysis including one hour lecture per week. Laboratory experiments include spectrophotometric, conductometric, potentiometric, and chromatographic analysis. Prerequisite: Chem. 33 A.

## Chem. 34 Physical Chemistry 3-4

The underlying principles of chemistry from a physical chemistry standpoint. Kinetic theory, theories of the structure of matter, theory of electrolytic solutions, electrochemistry, thermodynamics, kinetics.

## Chem. 35 Advanced Inorganic Chemistry 3-3

Valency theories, acid-base theories, reactions in non-aqueous solvents, complexation and chelation, physical measurements in inorganic chemistry. Prerequisite: Chem. 34.

## Chem. 36 C.B.A. and CHEM STUDY Chemistry 3-3

The rationale underlying both the theoretical and laboratory presentation in the two presentations. Prerequisite: Chem. 34.

## Chem. 90 Independent Study in Chemistry 3-6

Laboratory research under guidance of the chemistry staff. Prerequisite: Permission of the instructor.

## EDUCATION

## Ed. 03 Handwriting Once a month, no credit.

Standard handwriting course required of students in the Elementary curriculum.

## Ed. 70 Trends in American Education 3-3

An historical study with emphasis on current practices and trends at both Elementary and Secondary levels. Western and American concepts and influences, issues, leaders and movements in current educational literature. Required of Secondary Education majors.

## Ed. 76 Instructional Media Techniques 3-3

A basic study of the effective selection, use and evaluation of various types of instructional media for all classroom areas.



**Ed. 80 Principles and Practices in Education 3-5**

Required of all Education majors. Definitions of educational goals and systematic training in the achieving of these goals. Observation on appropriate levels supplements classroom activities.

**Ed. 81 Reading in the Elementary School 3-3**

Problems and methods of teaching reading in the primary and elementary grades. Procedures for each stage of the pupil's development. Many basic reading series are studied.

**Ed. 83 Reading Improvement 3-3**

A practical program based upon research findings and sound instructional procedures. Each student is assigned an individual child who has a reading problem.

**Ed. 84 Social Studies in the Elementary School 2-2**

Man and his relationships with other men and with his environment. Use and interpretation of graphs, charts and cartoons; use of globes and maps; teaching for world understanding.

**ELEMENTARY****Ed. 85 Student Teaching in Elementary Education 12-25**

Each student is required to have a full semester of student teaching consisting of two experiences at the elementary education level in selected schools. Under the guidance of experienced co-operating teachers and college supervisors each student assumes responsibility for teaching and managing the educational program. Provision is made for conferences throughout the semester.

**Ed. 86 Student Teaching in the Secondary School 9-18**

Students are assigned to a laboratory school for a semester of student teaching in their specialized field. Under trained supervision, responsibility is gradually assumed for planning and executing the educational program.

**Ed. 87 Reading in the Secondary School 3-3**

Curriculum development, materials and nature of reading. Emphasizes method of appraisal through teacher observation and diagnosis. Required of Secondary curriculum English majors.

**Ed. 88 Special Methods in Major Areas 3-3**

These courses emphasize curriculum development, materials and any methods that are peculiar to the specific subject matter major. In some instances more specific information will be found under departmental descriptions such as English 88, Mathematics 88, Science 88 etc.

**Ed. 89 Language Arts in the Elementary School 3-3**

The four aspects of a total program in Language Arts: listening, speaking, writing and creativity. Stresses building of desirable standards of speaking and writing suitable to the child's level of development.



Each student in Elementary curriculum should select an area of specialization. The following areas are available: Science, History, Art, Music, Geography, Mathematics, French, Language Arts, and Library Science. See departmental write-ups for requirements.

Ed. 89 Language Arts

Ed. 83 Reading Improvement

Eng. 48 Children's Literature

Sp. 80 Introduction to Speech Disorders

Psych. 82 Psychology of Speech and Communication

Eng. 10A      English Composition I      3-3

Eng. 10B      English Composition II      3-3

Essentially a continuation of Eng. 10A but more advanced. Logic, vocabulary of criticism, the research essay. Prerequisite: a passing grade in English Composition I.

Eng. 20A American Literature I 3-3

Representative American writers from Colonial days through the Civil War.

Eng. 20B American Literature II 3-3

## Representative American writers since the Civil War.

Eng. 21A      English Literature I      3-3

British writers from the Old English period through the early Romantic writers of the late 18th century.

Eng. 21B      English Literature II      3-3

## British writers since the Romantic Movement

Eng. 22A World Literature I 3-3

European literary masterpieces from the beginning through the middle of the 17th century.

Eng. 22B      World Literature II      3-3

European literary masterpieces from the mid-17th century to the present.

Eng. 30 World Drama 3-3

Significant and representative plays from the beginning to the modern period.

- Eng. 31    Modern Drama 3-3  
 The works of such playwrights as Ibsen, Chekhov, Shaw, Sartre, Williams, Brecht, Ionesco.
- Eng. 32    The Middle Ages 3-3  
 Literary forms that made their first appearance after the emergence of Middle English. Much attention to Chaucer.
- Eng. 33    The Early Shakespeare 3-3  
 Tragedies, comedies and English chronicle histories of Shakespeare's youth.
- Eng. 34    The Later Shakespeare 3-3  
 Mature comedies and tragedies. This course complements The Early Shakespeare but either may be taken independently of the other.
- Eng. 35    Elizabethan Literature 3-3  
 The main characteristics of Renaissance and Elizabethan Literature.
- Eng. 36    The Seventeenth Century 3-3  
 Non-dramatic English literature from Bacon through Dryden.
- Eng. 37    Milton 3-3  
 The English poems including *Paradise Lost*, and some prose.
- Eng. 38    The Eighteenth Century 3-3  
 From the development of Neo-classicism to the early stirrings of Romanticism. Dryden to Burns.
- Eng. 39    Literature of the Romantic Period 3-3  
 Wordsworth, Coleridge, Byron, Shelley, Keats. Minor authors such as Lamb and Hazlitt.
- Eng. 40    Literature of the Victorian Period 3-3  
 Prose, poetry and drama are studied for a greater understanding of the aesthetic, spiritual and social development of this period.
- Eng. 41    The Novel Before World War I 3-3  
 Significant novels representing various countries and periods as well as stages in the development of this literary form.
- Eng. 42    The Modern Novel 3-3  
 Modern novels of different nations are studied both aesthetically and as human documents.
- Eng. 43    The Short Story 3-3  
 The episode, tale and novella are studied both as art forms and as mediums for the portrayal of personal relationships in various countries and periods.

- 
- Eng. 44    Modern Poetry    3-3  
 Representative modern poetry with the emphasis on American and English poets.
- Eng. 45    Major American Writers of the Twentieth Century    3-3  
 The present domination of the United States in world affairs as reflected in the varied creativity of American writers of fiction, drama, poetry, criticism, and the essay since World War I.
- Eng. 46    British and American Humor    3-3  
 Dwelling primarily on comic writing in the fields of nonsense, fantasy, allegory and satire, this course aims to explore the well-springs of British and American humor as a reflection of national character.
- Eng. 47    Twentieth-Century Irish Literature    3-3  
 Synge, Yeats, Joyce, O'Flaherty, O'Connor and O'Faolain, with some attention to minor figures of the so-called Irish Literary Renaissance and of recent decades.
- Eng. 48    Children's Literature    3-3  
 Criteria for evaluation; story-telling; sources; book clubs; book fairs; school and classroom libraries; related areas.
- Eng. 49    Books and Related Materials for Young People    3-3  
 The outstanding literature, with guides to its selection and use.
- Eng. 50    History of Literary Criticism    3-3  
 Critical theory and practice from Aristotle through the 19th century.
- Eng. 51    Modern and Contemporary Criticism    3-3  
 Varied theories and practice. Complements History of Literary Criticism but either may be taken independently of the other.
- Eng. 52    Historical Development of the English Language    3-3  
 The nature and development of the English language, its structure, etymology, morphology, multilingual vocabulary and relation to other languages, is studied for an understanding of the political, social and cultural influences upon our native tongue.
- Eng. 53    Advanced Composition    3-3  
 Conducted as a writer's workshop. Stresses written assignments in non-fictional prose.
- Eng. 54    Creative Writing    3-3  
 For those students who, having completed Freshman Composition I and II with distinction, wish practice and guidance in one or two creative literary genres to which they feel temperamentally inclined. Upon approval of instructor.



Eng. 88      Special Methods in the Teaching of English (See under Education.)

Eng. 90      Independent Study 3-3

For English majors excelling in scholarship, upon approval of both department head and advising instructor.

### ELECTIVES AND SPECIAL FIELD REQUIREMENTS

Students following the Liberal Arts Curriculum with a major in English are required to take a total of 27 S.H. of elective courses to make a total of 45 S.H. of English.

Students preparing to teach English are required to take a minimum of 24 elective hours to make a total of 42 S.H. of English.

The sophomore literature requirement for all curricula may be fulfilled by taking either the one-year course in American Literature I and II, or the one-year course in English Literature I and II, or the one-year course in World Literature I and II. Before deciding which of the three to take, the student should ascertain whether it meets the requirements of his chosen curriculum. English majors are required to take both the one-year course in English Literature I and II and the one-year course in World Literature; they may elect the one-year course in American Literature I and II. No student may take any of the sophomore literature courses unless he has successfully passed English Composition I.

### FOREIGN LANGUAGES

A minimum of 6 semester hours of a foreign language is required for credit toward a degree for non-Liberal Arts students who wish to take foreign languages as electives. All foreign language courses must be taken on a two-semester basis or its equivalent to obtain the full 6 credit hours. To satisfy the language requirement for the Bachelor of Arts degree, students must complete one level higher than the intermediate, either in the civilization or literature areas. A placement test, given in the spring prior to the beginning of the semester, must be taken by students to determine their level of proficiency in a specific language beyond the elementary level. (Students in the Elementary curriculum wishing to specialize in French must reach the minimum proficiency level of French 22 or 33 and take French 80.) Those wishing to specialize in Spanish must reach the minimum proficiency level of Spanish 22 or 33 and take Spanish 80.

### FRENCH

Fr. 10 A      French for Beginners 3-4

Aural-oral approach to correct pronunciation, reading ability, and fundamentals of grammar and syntax. French gradually becomes the working classroom and laboratory language.



- Fr. 10 B French for Beginners** 3-4  
A continuation of French 10 A.
- Fr. 11 A French I Intermediate** 3-4  
Remedial pronunciation, grammar variety, conversation and laboratory practice; and readings stressing life, customs, and culture of France. Prerequisite: Two years of high school French or French 10 A and B and / or satisfactory score on Placement Test.
- Fr. 11 B French II Intermediate** 3-4  
A continuation of French 11A.
- Fr. 22 A French Civilization I** 3-3  
The development of the French nation as revealed in its history, geography and basic institutions through modern literature. Prerequisites: Placement Test or completion of French 11A and B and / or instructor's permission. (Course conducted in French.)
- Fr. 22 B French Civilization II** 3-3  
A continuation of French 22 A.
- Fr. 33 A French Literature I** 3-3  
A survey of the main currents of French literature from the Middle Ages through the 18th century. Prerequisite: Placement Test or completion of French 11 A and B and / or instructor's permission. (Course conducted in French.)
- Fr. 33 B French Literature II** 3-3  
A survey of the main currents of French Literature of the 19th and 20th centuries. Prerequisite: Placement Test or completion of French 11 A and B and / or instructor's permission. (Course conducted in French.)
- Fr. 80 Methods for Teaching French in the Elementary School** 3-3  
Designed to develop phonetic accuracy, aural comprehension and fluency in practical use of the language; techniques and materials for use in elementary school. Prerequisite: Minimum of 12 semester hours beyond beginners' level, and permission of instructor.
- Fr. 90 Advanced French Independent Study** 3-3  
Independent study within a designated area on an advanced basis. Prerequisite: Minimum of 12 semester hours, 2 grade average (in French) and permission of instructor.

## LATIN

- Lt. 11 A Latin I Intermediate** 3-3  
Intensive review of grammar, syntax, and forms. Selected readings in Latin prose and verse. Prerequisite: At least two years of high school Latin and / or satisfactory score on Placement Test.

Lt. 11 B	Latin II Intermediate	3-3
	A continuation of Latin 11 A.	

### SPANISH

Sp. 10 A	Spanish for Beginners	3-4
	Aural-oral approach to correct pronunciation, reading ability, and fundamentals of grammar and syntax. Spanish gradually becomes the working classroom and laboratory language.	
Sp. 10 B	Spanish for Beginners	3-4
	A continuation of Spanish 10 A.	
Sp. 11 A	Spanish I Intermediate	3-4
	Remedial pronunciation, grammar variety, conversation and laboratory practice; and readings stressing life, customs, and culture of Spain and Spanish America. Prerequisite: Two Years of high school Spanish (or Spanish 10 A and B) and / or satisfactory score on Placement Test.	
Sp. 11 B	Spanish II Intermediate	3-4
	A continuation of Spanish 11 A.	
Sp. 22 A	Spanish Civilization I	3-3
	Conducted in Spanish. Spanish culture as evidenced in Spain and Spanish America through modern representative literature. Prerequisite: Placement Test or completion of Spanish 11 A and B / or instructor's permission.	
Sp. 22 B	Spanish Civilization II	3-3
	A continuation of Spanish 22 A.	
Sp. 33 A	Spanish Literature I	3-3
	Conducted in Spanish. A survey of Spanish and Spanish American Literature. Prerequisite: Placement Test or completion of Spanish 11 A and B and /or instructor's permission.	
Sp. 33 B	Spanish Literature II	3-3
	A continuation of Spanish 33 A.	
Sp. 80	Methods for Teaching Spanish in the Elementary School	3-3
	Designed to develop phonetic accuracy, aural comprehension and fluency in the practical use of the language; techniques and materials for use in elementary school. Prerequisite: Minimum of 12 semester hours beyond beginners' course and permission of the instructor.	

### GEOGRAPHY

Geog. 10	Introduction to Geography	3-
	The inter-relationships between the physical and cultural elements of man's environment	

Geog. 20 Geography of the United States and Canada 3-3

Organized on the regional basis. Emphasizes the influence of topography, climate, soils, vegetation, transportation and natural resources on the occupations and cultural development of each region.

Geog. 30 Economic Geography 3-3

The basic geographic factors that are involved in the production, distribution and consumption of the major commodities of the world.

Geog. 31 Meteorology 3-3

The laws and principles underlying atmospheric phenomena, weather analysis and forecasting, and the application of weather data to problems of agriculture, forestry, transportation and health.

Geog. 32 Climatology 3-3

A systematic study of the climate regions of the earth and the interplay of latitude, pressure cells, mountain barriers, water bodies, ocean currents, and winds on the development of each climate type.

Geog. 33 Geography of Latin America 3-3

The geography of the countries and colonies of Latin America; historical background and political status, physical and climatic regions, agricultural and economic position, and inter-American and international relations.

Geog. 34 Geography of Europe 3-3

This regional analysis is based on the geographic elements that have influenced the evolution of the countries of Europe and have produced the national and international problems faced by European countries today.

Geog. 35 Geographic Influences in American History

Oceans and coasts, islands and harbors, mountain barriers and gaps, weather and climate, soil and vegetation, native animals and natural resources are analyzed to show their influence on the exploration, colonization, and expansion of the United States.

Geog. 36 Political Geography 3-3

Dependent and independent political units (colonies, protectorates, trust territories, commonwealths, and countries), boundary disputes, strategic areas, buffer zones, and international organizations.

Geog. 37 Geography of Asia 3-3

A regional analysis based on the geographic factors that have played a part in the development of the internal and external problems facing the nations of Asia today.



**Geog. 38 Geography of Africa 3-3**

The economic, political, historical, and cultural development of the countries of Africa in relation to their physical environment.

**Geog. 39 Geomorphology 3-3**

Land forms (mountains, plateaus, valleys, lakes, canyons, beaches and caves) and their development through the action of physical agents: glaciers, surface water, underground water, wind vulcanism, diastrophism, and waves.

**Geog. 40 Geography of Oceania 3-3**

Australia, New Zealand, Indonesia, the Philippines, and the island groups of the Pacific, including Micronesia and Polynesia.

**Geog. 41 Cartography 3-3**

Elementary drafting techniques necessary in presenting data on maps, charts and block diagrams. Problems and methods of research, compilation, scale and the construction of the common types of map projections.

**Geog. 88 Special Methods in Teaching Geography (See under Education.)****Geog. 90 Independent Study in Geography 3-3**

Provides students of exceptional ability and high academic achievement who are specializing in Geography the opportunity to investigate and analyze, with faculty guidance, a subject or problem of geographic significance.

### ELECTIVES AND SPECIAL FIELD REQUIREMENTS

A major in Geography can be obtained after the Introduction to Geography course has been satisfactorily completed by selecting 9 three-hour courses from the following list of electives.

Students majoring in Elementary Education with a specialization in Geography are required to complete at least 18 semester hours of Geography and take Ed. 84 Social Studies in the Elementary School. They are encouraged to also take History electives and thereby earn a Social Studies specialization.

### HISTORY

(Also see Social Studies)

**Hist. 10A and 10B History of Civilization I and II 3-3**

Emphasizes the special characteristics and contributions of periods and peoples from primitive man until today, with special emphasis on the relationship to the present culture.



---

Hist. 20      United States History and Constitution      3-3

The major forces and movements most important in the development of the American heritage from the Revolutionary War to the present. Special attention is given to the United States Constitution and its role in American history.

Hist. 21A      United States History I      3-3

The Colonial scene. The background and causes of the Revolutionary War, the Articles of Confederation, the United States Constitution, the formative years, the Civil War.

Hist. 21B      United States History II      3-3

Begins with the post Civil War Reconstruction, continues through the 19th century to the Progressive Era, World War I, the decade of reaction, the Great Depression, the New Deal, World War II, ending with the Kennedy years.

Hist. 30      The American Civil War and Reconstruction Period      3-3

From 1850 to 1865, especially the nation and its sections in the 1850's, politics and slavery, Lincoln's rise to power, the political, military, diplomatic aspects of the war, reconstruction.

Hist. 31      The Westward Movement      3-3

The movement as a social process, and the impact of the West on American development.

Hist. 32      The Economic History of the United States      3-3

The economic development of the United States from the colonial period to the present. Emphasis on the agricultural, financial, commercial, industrial-regulatory and labor developments and movements.

Hist. 33      American Diplomatic History      3-3

A survey of the roots of American diplomacy before 1900, with major emphasis on 20th-century problems.

Hist. 34      American Intellectual History      3-3

The history of ideas in America from the 17th-century to the present.

Hist. 35      History of Mexico, Central America and the Caribbean      3-3

History 36      History of Eastern South America (Brazil, Argentina,  
Uruguay, Paraguay)      3-3

Hist. 37      History of Western South America  
(the Andean countries)      3-3

Each surveys the pre-Columbian and colonial backgrounds, the clash and fusion of differing cultures, and the evolution of today's unique Latin American civilizations. The arts and the writings of social scientists as well as more conventional historical materials are drawn upon to contribute toward an understanding of today's problems.

- The Picts, Celts, Angles, Saxons, Danes and Norman French as components of British stock. Pre-Roman, Anglo-Saxon, Norman, Angevin and Tudor periods.

---

**Hist. 51 British History - 1603 to the Present 3-3**

Stuarts, Cromwell, Restoration; colonial period; revolutions in industry, transportation and agriculture; Napoleonic Era; Victorian Age; world empire; World Wars I and II; Britain in the post-war world. The literary and artistic expressions and dominant thought of the several eras.

**Hist. 52 History of Imperialism 3-3**

A survey of the relations between Europe and the non-European world from the age of discovery through the periods of expansion, Western dominance and nationalist uprisings against colonialism.

**Hist. 53 Early Intellectual History 3-3**

The development of historical investigation and the problem of historical method as exemplified in ancient and medieval texts and writers. Lectures, readings, reports.

**Hist. 54 Modern Intellectual History 3-3**

Critical appraisal of the major contemporary historical traditions.

**Hist. 55 Modern Economic History 3-3**

Economic development in the Western world from the Industrial Revolution to the present.

**Hist. 56 Current World Affairs 3-3**

The background, action, and consequences of two World Wars. An understanding of present world problems and international relations through an analysis of contemporary forces and issues.

**Hist. 88 Special Methods in Teaching of History 3-3**

Special techniques for the teaching of history, and their relationship to the principles of general methods.

**Hist. 90 Independent Study in History 3-3**

Open to students specializing in History. Each student researches and writes a scholarly report under tutorial guidance.

### ELECTIVES AND SPECIAL FIELDS REQUIREMENTS

Candidates for the degree of Bachelor of Arts with a major in History or Bachelor of Science in Education with a major in History are required to complete a minimum of 30 and 27 semester hours respectively in guided elective courses in or pertaining to their major fields. All electives must be approved by the History faculty. Students majoring in Elementary Education with a specialization in History are required to complete at least 18 semester hours of History and take Ed. 84 Social Studies in Elementary School. They are also encouraged to take Geography electives to earn a Social Studies specialization. Students in other curricula may also select electives from among the following courses.



## INDUSTRIAL ARTS

## I.A. 10 General Shop I 2-4

Methods and procedures of conducting teaching units in a multiple-activity shop. Students sample at their level, units normally carried on in teacher-training assignments.

## I.A. 11 Introduction to Woodworking 2-4

Emphasizes the individual project method in benchwork and a limited amount of machine work. Tools, materials, processes, design. The making of household and recreation accessories.

## I.A. 12 Introduction to Metals 2-4

Chemical metallurgy of selected metals, the use of precision measuring tools, sheetmetal fabrication, foundry practices, bench processes.

## I.A. 13 Introduction to Typography 2-4

The graphic arts industry and methods of visual communication. Comparison of the "big three" printing methods, materials and hardware; screen printing, photography and office reprography. Design, type speaks, terminology, point system, papermaking, inks, presses, proof marking and movable type.

## I.A. 14 D.C. - Circuit Fundamentals 2-4

Direct current electricity and magnetism plus applications of these principles to circuits and devices. Verification of these principles is made by means of experiments, demonstrations, and wiring problems.

## I.A. 15 History of Mechanics 2-4

Man's endeavor to harness the materials of nature to meet his ever-increasing demand for mechanics and power. Students construct a model which is representative of eras of man's accomplishments.

## I.A. 16 Introduction to Drawing 2-4

Lettering, dimensioning, orthographic projection, symbols, sectioning, isometric and auxiliary views are studied and developed. Problem development and blueprint reading.

## I.A. 17 Introduction to Design 2-4

The tools, materials, and processes related to leatherwork, ceramics, art metal, jewelry and enameling. Projects are individually designed and executed in each area.

## I.A. 20 General Shop II 3-6

Laboratory experiences with common theories and practices of the general shop; emphasis on organization including personnel systems, individualized activities, preparation of instructional materials, analysis of criteria for project selection, and application of the unit method to student-teaching assignments.



- I.A. 21 Furniture Making 3-6  
Furniture woods, design, construction, and finishing. Hand-tool skill is furthered, along with machine techniques. Individual pieces of small furniture are designed, constructed and finished.
- I.A. 22 Machine Shop Processes 3-6  
Metalworking machine tools and processes, as well as arc welding. Design and fabrication of products which involve skill in machining and welding.
- I.A. 23 Graphic Arts Unit Teaching 3-6  
Problem-centered group activity leading to development of a graphic arts unit. Investigation of materials, processes, hardware, occupations, historical development, and relationship of unit to industry. Emphasis on hand processes, creative hobbies, photography, printmaking and collecting, and supporting visual aids.
- I.A. 24 A.C. - Circuit Fundamentals 3-6  
Further application of DC circuit principles covered in D.C. - Circuit Fundamentals together with the study of AC circuit fundamentals, electromagnetism and electromagnetic induction. Experiments and tests performed with motors, generators, transformers, controls, and various types of drives.
- I.A. 25 Internal Combustion Engines 3-6  
The internal combustion engine and the component parts that make up an automobile. Emphasis is on the breaking down, re-assembly, testing, and adjusting of a popular-make engine.
- I.A. 26 Engineering Drawing 3-6  
Continuation of fundamentals in the field of intersection and developments, revolutions, axonometrics, assembly, and detail drawing. Chalkboard techniques.
- I.A. 30 Structures 3-6  
Basic principles and assumptions of structural design, including drawing and models. An analysis is made of ordinary structural members, frames and trusses. Load tests determining reactions, shears, bending moments, stresses.
- I.A. 31 Production Furniture 3-6  
Production of high-grade furniture, employing jigs, fixtures, and suitable mass-production procedures. Appropriate methods of production management are used and studied.
- I.A. 32 Advanced Machine Shop Processes 3-6  
Emphasizes increasing skill in selected areas of metalworking and broadening knowledge of machine operation. Oxy-acetylene welding of ferrous metals. Practical work of an approved type.

---

I.A. 33      Offset - Lithography      3-6

Publishing experience solving lithographic problems of design, pasteups, camera, stripping, platemaking, and operation of Davidson press. Planning dummy, choice of stock, composition, repros, scheduling, binding. Principles of halftones, color theory, photo-sensitive films and plates; chemistry of inks, papermaking and litho-printing.

I.A. 34      Radio Theory and Practice      3-6

Basic electronic principles and their applications in electronic devices. Theory is supplemented by the construction and testing of various circuits which illustrate applications of basic principles.

I.A. 35      Project Development in Mechanics      3-6

For those students whose interests lie in the field of Mechanics. Largely devoted to the planning, research and construction of a project which has been approved by the instructor.

I.A. 36      Descriptive Geometry      3-6

In this phase of drawing, problems both abstract and practical are worked out graphically. Visualization problems dealing with the concept of locus.

I.A. 37      Advanced Design      3-6

Design as applied to contemporary production methods. Field trips to local plants. Students develop individual design projects and follow through to a completed design module. Prerequisite: Art 17 or equivalent course.

I.A. 40      Research in Industrial Materials      3-4

Standard tests and procedures and laboratory tests to determine the properties of materials under investigation. Reports of research studies and laboratory experimentation.

I.A. 41      Woodworking Technology      3-6

For students who have proved their ability and wish to specialize in Woodworking. Tool and machine maintenance, designing and making teaching aids, and experimentation in wood technology and project development.

I.A. 42      Elements of Metallurgy      3-6

The physical metallurgy of common metals. Crystallization, theories of slip, heat treatments, corrosion, and specimen preparation for microscopic inspection. The interpretation and use of the iron-carbon equilibrium diagram is required. Prerequisite: I.A. 12, I.A. 22, or equivalent, and consent of instructor.

## I.A. 43      Problems of Service Printing      3-6

Supporting role of the graphic arts: to job shops, in-plant reprography, packaging, advertising, high-school service printing. Illustrating art, techniques of color separation and printing; audio-visual presentation; application of electrostatic printing to computers, long-distance facsimile; office copiers.

## I.A. 44      Transistors, F.M., Test Equipment      3-6

Further applications of electronic principles introduced in Electronics II as they apply to power supplies, test equipment, photoelectric and other devices, plus an introduction to transistor theory and practice and FM receivers.

## I.A. 47      Ceramics      3-6

Various methods of clay formation are studied including throwing on the wheel. Ceramic decorations and designs as related to contemporary architecture and sculpture.

## I.A. 70      Foundations of Industrial Arts I      2-2

Educational theories, social and academic setting, and leaders of each period of Industrial Arts history from manual training to the present, with emphasis on the major contemporary viewpoints of industrial arts.

## I.A. 71      Foundations of Industrial Arts II      3-4

An overview of the social and philosophical foundations of American public education with emphasis on curriculum theories and their application to the structure and organization of Industrial Arts in general education.

## I.A. 80      Principles and Practices in Industrial Arts      3-3

Principles underlying methods of planning and guiding learning activities with a special emphasis on problem solving, the project method and unitary teaching, plus the effective application of these methods to Industrial Arts teaching.

## I.A. 85      Student Teaching in Industrial Arts      9-18

Each student is directly responsible for planning, teaching, and managing a given number of classes either in the campus junior high school or selected public school shops under the supervision of an experienced teacher.

## I.A. 88      Industrial Arts for Special Education      3-6

Rudiments of planning, drawing, construction, and use of a variety of visual materials. A laboratory approach is made through projects to attain background in tools, materials, and processes appropriate to this type of teaching.



- I.A. 89      Instructional Material in Elementary Education      2-4  
Rudiments of planning, drawing, and construction of a variety of visual aids appropriate to the elementary grades. Emphasizes selected techniques of fabricating materials common to unit activities in the elementary school.
- I.A. 90-97      Independent Study in Various Shops      3 hours credit

### LIBRARY SCIENCE

Students in the Elementary curriculum wishing to qualify for certification as school librarians must take the following courses plus English 39 or English 40 for a total of 18 semester hours of work. In addition they will serve an internship in the college and training school libraries.

- L.S. 81 A and B      Reference Materials and Their Use      6-6  
Selection and use of basic reference works such as encyclopedias, dictionaries, periodical indexes, biographical dictionaries, atlases, yearbooks, directories, handbooks and general bibliographies.
- L.S. 82 A and B      Cataloguing and Classification of Materials      6-6  
Accepted procedures for classification and cataloguing of school library materials, both book and non-book recordings, films, film-strips, slides, maps, pictures and pamphlets.

### MATHEMATICS

Candidates for Secondary teaching certificates in Mathematics must complete a minimum of 33 semester hours of credit in the field, the equivalent of Math. 11, 12 through Math. 38 and 44.

Students in the Elementary curriculum who wish to specialize in Mathematics can do so by electing four courses beyond required Math. 10 A and B from the courses listed below under the guidance of the Mathematics Department. Other interested students may choose electives from this area with departmental approval.

- Math. 10 A and B      Mathematics I and II      6-6  
The real number system, algebra, trigonometry, analytic geometry and calculus.
- Math. 11      Algebra and Trigonometry      3-3  
The real number system, polynomial functions, inequalities, circular functions, (polar coordinates and complex numbers), permutations, combinations, and probability.
- Math. 12      Analytic Geometry      3-3  
Complex numbers, exponential and logarithmic functions, trigonometric identities, equations and graphs; solution of triangles with applications. Prerequisite: Math. 11 or the equivalent.



---

**Math 13      Introduction to Computer Programming      3-3**

For students with no prior computer experience. Introduction to a basic computer language, the technique of constructing flow charts, writing programs from problems in mathematics and related areas. Problems from engineering, economics, accounting, biology, sociology, etc. may be approached by students with such interests.

**Math. 14      Informal Geometry      3-3**

Fundamental ideas of congruence, measurement, parallelism, similarity, mathematical models for space, non-metric geometry, incidence geometry, convexity, distance and the ruler postulate.

**Math. 31      Calculus I      3-3**

The derivative and its basic properties. Derivatives of the elementary functions obtained and applied in geometry and physics. The definite integral and the fundamental theorem of calculus. Prerequisite: Math. 12 or the equivalent.

**Math. 32      Calculus II      3-3**

The basic properties of integration, techniques of integration, application in geometry and physics, Taylor's formula, improper integrals, infinite series. Prerequisite: Math. 31 or the equivalent.

**Math. 33      Calculus III      3-3**

The concept of a curve and of a function of several variables. Differentiable curves and functions of several variables are defined and their properties are applied to geometry and physics. Multiple integration. Prerequisite: Math. 32 or the equivalent.

**Math. 34      Geometry I      3-3**

Elementary geometry of space and the plane is studied in a modern setting. Emphasis is given to the foundations and the structure of the theory. The concepts of incidence, betweenness, measure, congruence, parallelism, similarity. Prerequisite: Analytic Geometry.

**Math. 35      Theory of Probability and Statistics I      3-3**

Counting methods, probability theory, discrete and continuous random variables, sampling methods. Prerequisite: Math. 32 or the equivalent.

**Math. 36      Modern College Geometry II      3-3**

A continuation of Math. 34. Axiomatic projective geometry and its relationship to other geometries through a study of transformations. Prerequisite: Math. 44.

**Math. 37      Elementary Differential Equations      3-3**

Ordinary differential equations and their applications. Particularly equations of the first order and linear equations of the second order. Prerequisite: Math. 33.

- Math. 38      Introduction to Abstract Algebra I      3-3  
Mappings, equivalence relations, congruences, number systems, groups, rings, integral domains, fields, polynomials. Prerequisite: Math. 11 or College Math. 10 A and B.
- Math. 39      Probability and Statistics II      3-3  
A continuation of Math. 35. One and many dimensional random variables, the normal, binomial, Poisson, hypergeometric and beta probability density functions with moment generating functions, estimation, hypothesis testing, introduction to analysis of variance. Prerequisite: Math. 31, 32, and 35 or their equivalent.
- Math. 43      Introduction to Mathematical Logic      3-3  
A course in postulational foundations and the processes of logical reasoning. (Not offered every year.) Prerequisite: Math. 11 or Math. 10 A.
- Math 44      Linear Algebra      3-3  
The theory of finite dimensional vector spaces is developed and applied in the study of linear transformations, determinants and matrices. Prerequisite: Math. 11 and Math. 12.
- Math. 45      Topology      3-3  
Introduction to the study of point-set topology by means of maps and networks, set theory, topological spaces and transformations, metric spaces, connectedness, compactness, Euler's Theorem, the Jordan Curve Theorem, Brouwer's Fixed-Point Theorem. Prerequisite: Math. 33 or permission of the instructor.
- Math. 46      Number Theory      3-3  
An introduction to the study of integers and their properties. Divisibility, properties of integers, the greatest common divisor, the lowest common multiple, prime numbers, the unique factorization theorem, congruences, diophantine problems, Euler's Theorem, Wilson's Theorem, theorems of Fermat. Prerequisite: Math. 12 or permission of the instructor.
- Math. 88 A      The Secondary School Mathematics Curriculum      3-3  
The objectives and content of a modern mathematics sequence for grades 7-12 are studied by examining materials developed by S.M.S.G. (School Mathematics Study Group). Representative materials developed by other groups will be compared with the SMSG program and the role of axiomatics in mathematics will be developed.
- Math. 88 B      Mathematical Concepts      3-3  
Selected topics from the arithmetic, algebra, and geometry of modern elementary school mathematics programs, including the School Mathematics Study Group Program, the Madison Project, and the Stanford Project with attention to the discovery approach.

## MEDICAL TECHNOLOGY

Courses at affiliated hospitals:

- M.T. 80      Hematology, Serology and Blood Bank      8-19  
Theory and practice of enumeration of blood cells, and evaluation of stained blood smears; precipitation, agglutination, and complement fixation tests; determination of human blood groups; procurement and preservation of human blood for transfusion.
- M.T. 81      Bacteriology and Parasitology      8-13  
The pathogenic bacteria and fungi, with emphasis on methods of identification.
- M.T. 82      Histology and Cytology      4-7  
Individualized instruction in the preparation and staining of tissues and body fluids for microscopic study.
- M.T. 83      Biochemistry      8-13  
The chemical composition of body fluids and the significance of its variation in disease, with emphasis on instrumentation and the development of analytical skills.
- M.T. 84      Laboratory Analyses      4-8  
Supervised practice in the clinical laboratory.

## MUSIC

- Mus. 11      Art of Music I      3-3  
Music as aesthetic experience. Representative styles from the Middle Ages to the present; major categories such as symphony, oratorio, opera and chamber music.
- Mus. 21      Applied Music      1-2  
Techniques of music for prospective teachers of elementary and special classes, largely centered in singing skills. Students who can pass an equivalency examination will be exempted.
- Mus. 30      Art of Music II      3-3  
Music's reflection in artistic terms of the values and ideals of societies past and present. Inter-relationships between the fine arts. May not be substituted for Mus. 11.
- Mus. 31      Symphony      3-3  
Structural and stylistic characteristics of the symphony from the 18th century to the present time.
- Mus. 32      Opera      3-3  
Several works from the standard operatic repertoire. The student becomes familiar with some of the significant trends in modern opera.



- Mus. 33      Chamber Music      3-3  
The vast area of music for smaller combinations of instruments; literature for the string quartet.
- Mus. 34      Twentieth-Century Music      3-3  
The idioms and aesthetic notions of the present century, together with their relationships to the past.
- Mus. 40      Choral Arts      1-2  
Singing works from the great corpus of choral music past and present, including dramatic music. Open to the entire student body on audition. No more than 3 semester hours may be applied toward graduation. May be taken for audit.
- Mus. 41      Instrumental Arts      1-2  
Small and large ensemble playing of representative works for brass, percussion, woodwind and string instruments. Open to the entire student body on audition. No more than 3 semester hours of Mus. 41 or any combination of Mus. 41 and Mus. 40 applied toward graduation. Available for audit.
- Mus. 42      Class Piano      1-2  
Practical keyboard usages in classroom work; accompaniment, simple transposition, harmonization of melodies at the keyboard.
- Mus. 43      Class Voice      1-2  
Principles of voice production. Breath control, phrasing, resonance, diction.
- Mus. 44      Song      3-3  
Popular, folk, and art songs of many nations; application of such music to the elementary classroom.
- Mus. 45      Harmony      3-3  
To secure for the student sufficient mastery of four-part harmony to enable him to write harmonizations of simple melodies, as well as to grant him a deeper insight into principles of modulation and key relationships.
- Mus. 80      Music in Elementary Education      2-4  
The objectives and techniques of music in the first six grades are examined. Music in terms of the abilities and needs of the elementary school child. Includes observation. Prerequisite: Mus. 11 and 21.
- Mus. 81      Music in Special Education      2-4  
The objectives and techniques of teaching music in special classes. Music in terms of the abilities and needs of the mentally retarded child. Prerequisite: Mus. 11 and 21.
- Mus. 82      Workshop in Elementary Music Education      2-4  
Modern approaches to professional music education in the elementary school. Observation and individual projects.



Mus. 90      Independent Study in Music      3 hours credit.  
For students of exceptional ability and interest.

### MUSIC TEACHING SPECIALTY - ELEMENTARY SCHOOL

This curriculum is designed to give the elementary classroom teacher a special competence in music, with a view particularly to making a teacher capable of introducing music into collaborative teaching techniques. Students will be admitted at the discretion of the music faculty. Conditions for admittance: Keyboard competence of the level of the "Two-Part Inventions" and ability to sing on pitch with a pleasant tone and accurate rhythm. Required courses:

Mus. 11	3-3
Mus. 21	1-2
Mus. 40 and / or 41	(at least three semesters at 1 s.h.)
Mus. 42	1-2
Mus. 43	1-2
Mus. 44	3-3
Mus. 45	3-3
Mus. 82	2-4
Two Music electives	6-6

### NURSING

A final mark of 2 shall be required for each of the nursing courses. Nurs. 71A Foundations of Nursing I is prerequisite to any clinical nursing course in the third year of the curriculum.

A student with an unsatisfactory mark in any of the prerequisite courses will be obliged to withdraw from the program until such time as the course is offered again, which might be an entire year in the case of the course in Foundations of Nursing.

Nursing 70A      Introduction to Nursing      1-1

An analysis of the historical development of nursing as a concept and occupation.

Nursing 70B      Introduction to Nursing      1-1

An analysis of the various approaches to the developing concept of nursing.

Nursing 71A      Foundations of Nursing I      4-7

To develop and implement the broad concepts of patient care. Basic nursing skills, which may be applied to all nursing situations.

Nursing 71B      Foundations of Nursing II      4-7

A continuation of Foundations of Nursing I, which is a prerequisite. Planned clinical experience.

- Nursing 72      Nutrition 3-3  
Includes the study of the basic elements of the science of nutrition. Food requirements are related to individual need. Budgeting, food purchasing, menu planning, selection, preparation and serving of basic foods.
- Nursing 80      Medical-Surgical Nursing 12-24  
To develop nursing concepts from principles and theories of the natural and behavioral sciences and from medicine. Basic nursing problems are the frame of reference for the organization of knowledge into content fundamental to the process of nursing the adult.
- Nursing 81      Maternal and Child Health Nursing 12-24  
Role of the family in the community. The importance of, and principles to protect and preserve, the health of parent and child.
- Nursing 82      Advanced Medical-Surgical Nursing 9-20  
Critical analysis of nursing problems of the adult and his family. Skill in the application of principles of management in meeting the nursing needs of a group of patients.
- Nursing 83      Community and Mental Health Nursing 12-24  
Family approach to an understanding of health needs. Agency and community organization, epidemiology and environmental health. Clinical nursing experience is planned in the combined areas of the mental hospital and the community.
- Nursing 87      Pharmacology 2-2  
The origin, preparation, action, therapeutic use and toxic effects of commonly used drugs with emphasis on the understanding needed by the nurse in the administration of medicines.
- Nursing 88      Principles of Management 2-2  
The basic elements and principles of management are studied, with consideration of their application to the practice of nursing and to beginning leadership positions in nursing.
- Nursing 89      Nursing Seminar 2-2  
A survey of the current trends and problems confronting nursing as a profession. The role of the nurse as both an individual and a participant in organizations and groups concerned with these problems.

## PHILOSOPHY

- Phil. 10      Introduction to Philosophy 3-3  
The broad problems of truth, reality, goodness and beauty through a study of the primary courses of an historical nature, and the contributions of major schools of philosophy such as realism, empiricism and idealism.

- 
- Phil. 30      Logic      3-3  
Precise and logical habits of thinking. Both the theoretical and practical aspects of logic, beginning with Aristotelian logic and culminating in an introduction to the principles of symbolic logic.
- Phil. 31      The Philosophy of Plato      3-3  
Plato's theory of ideas, theory of knowledge, ethical and political views, doctrine of fine arts. Readings in selected dialogues.
- Phil. 32      The Philosophy of Aristotle      3-3  
A study of Aristotle's philosophy as seen in his "Metaphysics," "Politics," and "Nicomachean Ethics."
- Phil. 33      The Philosophy of Communism      3-3  
An historical and critical study of Communism, its origins, philosophy, and development as found in the writings of Karl Marx and as it is applied today.
- Phil. 34      Ethics      3-3  
The representative types of ethical systems and problems from Plato to Paul Tillich.
- Phil. 35      Epistemology      3-3  
The problem and method of human knowledge. Various theories of knowledge are presented in the light of Idealism, Realism, Pragmatism, and Existentialism.
- Phil. 36      Metaphysics      3-3  
Introduction to the origin and development of metaphysical problems in Western philosophy.
- Phil. 37      History of Medieval Philosophy      3-3  
A study of the more important philosophers of the Middle Ages including St. Augustine, Boethius, Albertus Magnus, Avicenna, Averroes, Maimonides and St. Thomas along with their influence upon subsequent philosophy.
- Phil. 38      History of Modern Philosophy      3-3  
Emphasizes the more important and representative trends of modern thought since the Renaissance, including Descartes, Locke, Spinoza, Leibniz, Hume, Kant, and Hegel.
- Phil. 39      Contemporary Philosophy      3-3  
An analytical and historical study of contemporary thought from Nietzsche to Whitehead.
- Phil. 40      Existentialism      3-3  
The origin of contemporary existentialism; its leading ideas as seen in the writings of Kierkegaard, Heidegger, Jaspers, and Sartre.



Phil. 41      American Philosophy      3-3

An historical survey and related readings in American Philosophy from the Colonial period through the 20th century. Emphasis will be placed on the contemporary scene including Peirce, James, Royce, Santayana, and Dewey.

Phil. 42      Political and Social Philosophy      3-3

The various political and social ideas beginning with Plato and continuing to Marx.

Phil. 80      Educational Philosophy      3-3

A guide to the philosophical treatment of educational problems. Employs the synoptic, critical and systematic areas of philosophy.

### ELECTIVES AND SPECIAL FIELD REQUIREMENTS

Students in the Liberal Arts Curriculum who elect a minor in Philosophy will select their courses from among those in the 30 and 40 series. Other students with free electives may also select courses from this list. Prerequisite: Phil. 10.

### PHYSICAL EDUCATION

#### MEN AND WOMEN

Instruction in the four required physical education courses includes the development of the following in selected sports activities:

1. Physical Conditioning
2. Motor Skills
3. Knowledge, Rules, Techniques and Strategies
4. Qualities, Leadership, Competitiveness, Cooperation, etc.

P.E. 01A      Physical Education I      0-2

Instruction is offered in soccer, touch football, field hockey, swimming.

P.E. 01B      Physical Education II      0-2

Instruction is offered in tumbling, basketball, apparatus, track and field, dance (folk and square).

P.E. 02A      Physical Education III      0-2

Instruction is offered in archery, weight training, tennis, dance (modern), badminton.

P.E. 02B      Physical Education IV      0-2

Instruction is offered in handball, golf, wrestling, apparatus, softball.

### PHYSICAL EDUCATION ADAPTIVE COURSE

The adaptive course of physical education is offered for those

students who, because of some functional or structural deficiency, are temporarily or permanently unable to take part in the regular program. The activities offered will be determined by the needs of each individual student according to the advice of the family physician. In extreme cases of partial or total disability, consideration will be given to a waiver of the physical education requirement.

P.E. 08      First Aid      0-2

The official Red Cross Standard course is required for students in all curricula except Nursing.

P.E. 80      Physical Education in the Elementary School      1-2

Theory and practice course designed to guide the classroom teacher in organizing a comprehensive program of physical education activities based upon physiological, sociological, and psychological needs of elementary children with practice teaching of stunts, tumblings, and rhythmic.

P.E. 81      Physical Education for Secondary Schools      3-3

Pertinent background material for organizing and conducting an integrated activity program for junior and senior high school boys.

## PHYSICS

Phys. 10      General Physics      3-4

A general survey of classical and modern physics. Emphasis on fundamental principles and their practical applications. Required of all Industrial Arts students.

Phys. 21 A      Introductory Physics I      3-4

A survey of classical and modern physics. The topics include the conservation laws, structure of matter, mechanics, and wave motion. Required of Biology majors.

Phys. 21 B      Introductory Physics II      3-4

A continuation of Physics 21 A, dealing with the topics of electricity, magnetism, optics, and some atomic and nuclear physics. Prerequisite: Phys. 21 A.

Phys. 30 A      General Physics I      4-5

Kinematics, dynamics, Newtonian mechanics of translation and rotation, kinetic molecular theory, Kepler's Laws of Motion. Required of all Mathematics, Chemistry, and Physics majors.

Phys. 30 B      General Physics II      4-5

A continuation of Physics 30 A. Electrostatics, electromagnetism, circuit theory, wave motion, physical and geometric optics. Calculus will be used occasionally.

- Phys. 31      Modern Physics      3-3  
Special theory of relativity, atomic structure, spectra, the quantum theory, the nucleus and radioactivity. Prerequisite: Physics 30 A and 30 B.
- Phys. 32      Electronic Physics I      4-5  
Foundations of electromagnetic theory, including electrostatics dielectric theory, electromagnetism, magnetic properties of matter, and alternating currents. Prerequisite: Phys. 30 A and 30 B.
- Phys. 33      Electronic Physics II      4-5  
An introductory course in basic electronic phenomena, covering topics in elementary circuit theory, electron emission, vacuum tube characteristics, vacuum tube circuits, transistors and transistor circuits. Prerequisite: Phys. 32.
- Phys. 34      PSSC Physics      3-4  
For prospective Secondary physics teachers. The concepts, demonstrations, and experiments contained in the secondary physics course prepared by the Physical Science Study Committee. Prerequisite: Phys. 30 A and 30 B.
- Phys. 35 A      Mathematical Physics I      3-3  
Development of mathematical methods and applications in selected physical topics. Classical mechanics, relativity, quantum mechanics, and statistical mechanics. Prerequisite: Upper-class standing in Physics, Chemistry, or Mathematics.
- Phys. 35 B      Mathematical Physics II      3-3  
A continuation of topics from Phys. 35 A.
- Phys. 36      Optics      4-5  
An introductory course in geometrical and physical optics including reflection, refraction, lens theory, interference, diffraction, and line spectra. Laboratory experiments are an integral part of the course. Prerequisite: Phys. 30 A and 30 B.
- Phys. 38      Solid State      3-3  
An introduction to the structure, properties and behavior of solids. Both the physics and chemistry of solids. The principles that relate the properties and behavior of different materials to their structure and environment. A major part of the course is concerned with the building of close-packed and lattice models of crystal structures. Prerequisite: General Physics, Chemistry, and Algebra.
- Phys. 40      Intermediate Mechanics      3-3  
An analytical treatment of classical mechanics covering the methods of statics and dynamics of particles and rigid bodies, both in a plane and in space, and the application of these methods to physical problems; oscillations; and Lagrange's Equations. Prerequisite: Math. 37.



**Phys. 41      Computer Fundamentals      3-3**

Elements of programming, digital computers. Applications of computers to problem solving, especially approximate solutions for initial value problems and boundary value problems. Applications of analog computers may be considered. Prerequisite: Math. 33.

**Phys. 43      Advanced Laboratory      3-5**

A few experiments, using fairly sophisticated apparatus, will be performed by the student. The experiments will be from different areas of physics. The student will be expected to consult various sources including the original source, if available.

**Phys. 88      Physics Methods      3-3**

Special techniques for the teaching of physics are stressed.

**Phys. 90      Independent Study      3-3**

Laboratory research under guidance of physics staff. Prerequisite: Permission of instructor.

## PSYCHOLOGY

**Psych. 10      General Psychology      3-3**

The science of human behavior. Scientific method, maturation, motivation, emotions, sensation, perception, learning, personality, adjustment.

**Psych. 20      Adolescent Psychology      3-3**

The significance of psychological factors in the adjustment of the adolescent to his peers, family, school, society. Prerequisite: Psych. 10.

**Psych. 21      Child Psychology      3-3**

Interaction of the maturational stages with environmental influences from conception to puberty. Prerequisite: Psych. 10.

**Psych. 22      Human Growth and Development      3-3**

The life span of man with reference to physiological, social and psychological processes. Prerequisite: Psych. 10.

**Psych. 23      Principles of Guidance      3-3**

Introductory course dealing with development of major services including an overview of counseling, occupational information, group procedures and other specialized aspects of a guidance program. A beginning course for all interested in guidance either as a classroom teacher or a specialist.

### ELECTIVES

- Psych. 30      Mental Hygiene      3-3  
Factors governing the adjustment of the individual to his environment mentally, physically, emotionally, socially. Prerequisite: Psych. 10.
- Psych. 31      Social Psychology      3-3  
Psychological constructs and concepts applied to the interaction between human beings. Prerequisite: Psych. 10.
- Psych. 35      Psychology of Personality      3-3  
Dynamic factors in personality formation are followed through approximate sequences of the life periods. Major theories and assessment. Prerequisite: Psych. 10.
- Psych. 36      Learning and the Culturally Disadvantaged      3-3  
Factors in the gap between cultural background and learning experiences of the culturally deprived child. Ways in which the school can supplement and counteract the antisocial learning of these children.
- Psych. 70      Psychology of Learning      3-3  
Nature and fundamental principles of learning. Effective learning procedures and conditions.
- Psych. 80      Educational Measurements      3-3  
Basic statistical concepts and techniques to measure pupil achievement, aptitude, personality. Application of teacher-made tests, standardized tests and others. Prerequisite: Psych. 10.
- Psych. 81      Psychology of Speech and Communication      3-3  
Fundamental importance of speech and communication as an aspect of the whole personality. Origins of speech and language, psychological factors affecting the development of speech, disturbances in the communication behavior of the speaker, voice and personality, emotional aspects of hearing and listening, and the psychological implications of "silence."

### SCIENCE

(Also see Biology, Chemistry and Physics)

- Sc. 20A and 20B      Physical Science I and II      3-4  
The solar system, motion, energy, electricity, structure of matter, atomic structure, chemical combination and atomic energy.
- Sc. 30      Geology      3-4  
Physical and historical geology. Special attention to recent glaciation in New England. Laboratory work includes field trips, study of rocks, minerals, fossils.

**Sc. 31      Astronomy      3-4**

Motions of the earth, moon and planets including measures of time and space. Properties of reflecting and refracting telescopes. Some of the properties of stars. A 62mm refractor telescope and a 6-inch reflector telescope are available. Some evening laboratories.

**Sc. 32      Earth, Sea and Air      3-4**

The earth as a planet, sun-moon-earth relations, earth measurement; the lithosphere, theories of its formation and change, and rock structure; the hydrosphere, properties of water, currents and tides; and the atmosphere, winds and weather. Emphasizes the scientific theories and concepts behind phenomena. Some selected experiments are performed.

**Sc. 81      Science in Elementary Education      3-4**

Science areas particularly applicable in elementary education. Physical science and biological problems. Experimentation, observation, problem solving.

**Sc. 88      Science Methods for Secondary Teaching      3-3**

Aims, objectives; patterns of curriculum development. Emphasis on the demonstrations, experimental projects, field trips and problems students encounter in their practice teaching.

**ELECTIVE AND SPECIAL FIELD REQUIREMENTS**

Students majoring in Elementary Education with a specialization in Science must complete a minimum of 15 semester hours of Science beyond the required Bio. 10A and B and Sc. 20A and B including a field science, and earth science.

**SOCIAL SCIENCES**

(Also see History and Geography)

**S.S. 21      Social Institutions      3-3**

Social institutions and culture patterns, in terms of principles of sociology, economics, social psychology and cultural anthropology.

**S.S. 22      Introductory Economics      3-3**

The organization and functions of economic society and the interrelated processes of production, distribution and consumption. Current problems are emphasized.

**S.S. 30      Comparative Government      3-3**

Governmental philosophies and their differing political climates. The American system receives special emphasis.

**S.S. 31      Introduction to Political Science      3-3**

Survey and analysis of political ideas, institutions, practices and parties. Special emphasis upon Great Britain, France, and the Soviet Union. Introduces classics and contemporary writings in the field.



**S.S. 32      Introductory Anthropology      3-3**

The types, range and diversity in human cultures and cultural institutions, past and present. Cultural evolution. The relationship of culture and personality.

**S.S. 33      Community Analysis      3-3**

Introduction to the theory and practice of community organization. Field study: observation and analysis of social institutions in Fitchburg and neighboring communities.

**S.S. 34      Urban Sociology      3-3**

Investigation of the role of the city in history and in modern life; the various forms developing in urban societies and the influence these forms have on personal and group living.

**Sp. Ed. 90      Independent Study      3-3**

Each student is encouraged to review, develop and synthesize a problem in the field of special education. Opportunities for consulting and visiting agencies to identify the needs of exceptional children.

### SPECIAL EDUCATION

**Sp. Ed. 20      Nature and Needs of the Mentally Retarded      3-3**

Characteristics of both educable and trainable children, methods of classifications, and causes of mental retardation. Responsibility of community and school in providing for the mentally retarded.

**Sp. Ed. 21      Home Arts      3-6**

Foods, clothing and other home arts areas for those who will teach and work with the mentally retarded. Food buying, preparation, table service; meal planning; basic nutrition; elementary etiquette; good grooming; simple sewing; clothing selection and care.

**Sp. Ed. 24      Exceptional Children      4-4**

Etiology, classification, problems of children who have physical disability, mental retardation, emotional or social difficulties, giftedness. Clinical observations and consultations.

**Sp. Ed. 71      Curriculum for the Trainable Child      3-3**

Analyzes special problems of curriculum development for the trainable child and evaluates curriculum materials and resources. Emphasis on content appropriate to the areas of language arts, quantitative thinking, social and civic responsibility.

**Sp. Ed. 72      Problems in Language Arts for Mentally Retarded      3-3**

Students identify, develop, and use resources related to the classroom problems in language areas. The stages of development and deviations of the exceptional child. Current research, diagnosis, and improvement of practical language usage.

---

Sp. Ed. 73      Seminar in Mental Retardation      3-3

Approaches to educational research and the study of significant problems in mental retardation. Students appraise and apply resources in the development of their research problem.

Sp. Ed. 74      Industrial Skills and Analysis of Job Areas      3-3

A laboratory course providing technical knowledge and instruction of industrial skills appropriate for the mentally retarded. Practical experience related to communal needs in job analysis.

Sp. Ed. 80      Methods of Teaching the Mentally Retarded      3-3

The organization and planning of activities and materials for mentally retarded children at different maturational levels. Study of current research related to the application of learning patterns.

Sp. Ed. 82      Curriculum for the Mentally Retarded      3-3

Appropriate structures. Emphasizes development of learning, language arts, quantitative thinking, social and civic responsibilities, pre-vocational experiences.

Sp. Ed. 83      Reading in Special Education      3-3

Reading instruction, materials, and diagnostic tests. Children's reading difficulties, preventive and remedial techniques, current reading materials with emphasis on Special-Education curriculum adjustment. Classroom observation.

Sp. Ed. 85      Student Teaching      12-25

Senior students have eighteen weeks of complete classroom responsibility, guided by cooperating teacher, college supervisor and professional personnel from other disciplines, in teaching varied levels of retardation in public schools and institutions.

## SPEECH

Sp. 01      Speech Improvement      1-0

Remedial course. Students are assigned to the program after diagnosis and recommendations of need for speech improvement. Individual and group therapy.

Sp. 10      Speech      2-3

Effective organization and delivery of speeches, oral interpretation of literature, techniques of intelligent criticism. Forums, panel discussions, parliamentary procedure.

Sp. 80      Introduction to Speech Disorders      3-3

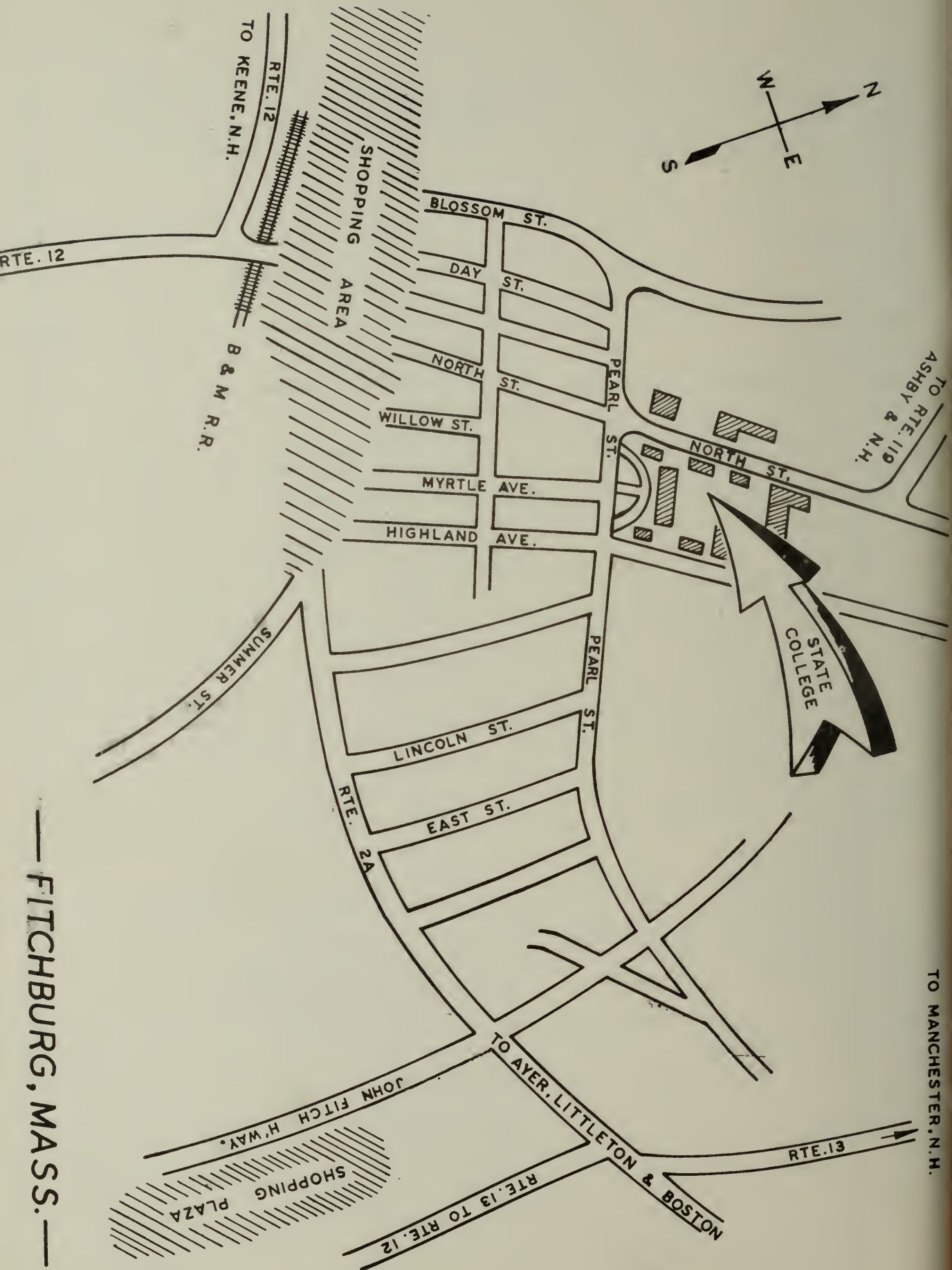
Designed for the prospective classroom teacher. Introduction to diagnostic and therapeutic techniques with the more common types

of speech disorders: articulation, voice-delayed speech, stuttering, and speech disorders associated with mental retardation, hearing problems, cerebral palsy, and cleft palate.



# INDEX

Absences	8	Geology	59
Admissions	6	Grading System	8
Administration and Faculty	1	Graduation Requirements	7
Arithmetic	31	History	39
Arts	24	Industrial Arts	43
Astronomy	59	Intramural Sports	5
Athletics	5	Library Facilities	4
Biology	26	Library Science	47
Buildings	4	Map of Campus	28-29
Chemistry	31	Mathematics	47
College Description	3	Medical Technology	50
Costs	6	Music	50
Course Numbering Explanation	9	Nursing	52
Curriculum Outlines		Parking, Students	6
Teacher Education	10	Payment Plan	6
Elementary	10	Philosophy	54
Secondary	11	Physical Education	55
Biology Majors	14	Physics	56
History, Geography, and		Point Average	7
English Majors	12	Psychology	57
Industrial Arts	15	Reading	32
Mathematics, Chemistry, and		Recreation	5
Physics Majors	12	Registration, Initial Fee	6
Special Education	17	Science	59
Nursing Curriculum	18	Social Science	60
Liberal Arts Curriculum	19	Special Education	60
Biology Majors	21	Speech	62
English Majors	19	Statistics	49
History Majors	20	Student Financial Assistance	7
Medical Technology Curriculum	23	Student Handbook	9
Degrees Offered	9	Student Course Load	8
Education	32	Student Organizations	5
English	34	Student Teaching	7
Employment, Student	7	Transcripts	8
Fees	6	Tuition	6
French	36	Withdrawal	8
Geography	37	Zoology	26



—FITCHBURG, MASS.—





